TECHNOLOGY DEPT:

November 26, 1941

NATIONAL PETROLEUM NEWS

PUBLIC LIBRARY
NOV 27 1941
DETROIT

The California Refiners Contributions to New Processes

Visits to plants and offices of major companies on the West Coast indicate that the new processes recently being installed will play an important part in the manufacture of important products. Among those products are 100-octane aviation fuel, high speed lubricants and high melting wax R-369

Chemical Composition as a Guide to Road Octane Rating

This API paper assists the refiner in blending motor fuels to eliminate knock at any engine speed R-370

New Lubricating Oil Decolorizing Method and Clay Regeneration

A new continuous contact process for decolorizing lubricants together with a solvent method for revivification of the fine clay.....R-374

New CFR Road Detonation Test Described

The 1941 Tests are discussed by the Co-operative Fuel Research Committee. They indicate that a standard method may soon be adopted....R-381

Caustic-Methanol and Bauxite Methods for Sulphur Removal

Discussion at the API Meeting is spirited.....R-384

★ ★ ★ News in Brief ★ ★ ★

OPA sets ceiling on wax prices effective Dec. 1. Page 5.

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Used steel barrel price ceiling set by OPA. Page 13.

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Jobber and co-op groups complain to ICC on heavy oil rates. Page 5.

★ ★ ★

Ask rail rate cut on crude to Illinois refining district. Page 17.

Mines Bureau forecasts 12.5% hike in December "gas" demand. Page 7.

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Navy makes awards; announces bid openings on December 2. Page 10.

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Texas and Kansas increase allowables for December. Page 11.

★ ★ ★

OPM cuts February automobile production 56.1%. Page 18.

REFINING TECHNOLOGY EDITION

ERIE

SERVICE DEFENDS

YOUR INVESTMENT IN MODERN ERIE PUMPS

ERIE
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ERIE, PENNA.
IS TAKING ITS RIGHTFUL PLACE IN THE NATION'S DEFENSE PROGRAM ★

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BOSTON, ATLANTA, RICHMOND, VA., KANSAS CITY, HOUSTON, DENVER, OAKLAND, CALIF.

COMING MEETINGS

DECEMBER

Exposition of Chemical Industries, Grand Central Palace, New York, N. Y., Mon.-Sat., Dec. 1-6.

New Mexico Oil & Gas Assn., Artesia New Mex., Wed., Dec. 3.

Oil Dealers' Assn. of Arkansas, 7th Annual Convention, Marion Hotel, Little Rock, Ark., Wed., Dec. 3.

Nebraska Petroleum Marketers, Inc., Fontanelle Hotel, Omaha, Neb., Tues.-Thurs., Dec. 2-4.

Oklahoma Stripper Well Assn., Tulsa, Okla., Fri., Dec. 5.

National Highway Transportation Show, Convention Hall, Philadelphia, Pa., Sat.-Fri., Dec. 6-12.

South Dakota Independent Oil Men's Assn., 23rd Annual Convention, Aberdeen Civic Auditorium & Hotel Sherman, Aberdeen, S. D., Tues.-Wed., Dec. 9-10.

New Jersey Oil Trade Assn., Annual Banquet and Election of Officers, Robert Treat Hotel, Newark, N. J., Thurs., Dec. 11.

Ohio Gas & Oil Men's Assn., Deshler-Wallick Hotel, Columbus, Ohio, Friday, December 12.

JANUARY, 1942

Society of Automotive Engineers, Annual Meeting (and Engineering Display) Book Cadillac Hotel, Detroit, Mich., Mon.-Fri., Jan. 12-16.

FEBRUARY

Kentucky Petroleum Marketers, 16th Annual Meeting, Brown Hotel, Louisville, Ky., Tues.-Wed., Feb. 10-11.

Iowa Independent Oil Jobbers' Assn., Annual Convention, Hotel Fort Des Moines, Des Moines, Ia., Wed.-Fri., Feb. 25-27.

American Petroleum Institute, Div. of Production, Southwestern District, Spring Meeting, Adolphus Hotel, Dallas, Tex., Thurs.-Fri., Feb. 26-27.

North Texas Oil & Gas Assn., Wichita Falls, Tex., Sat., Feb. 28.

MARCH

Indiana Independent Petroleum Assn., Spring Convention and Refiners' and Suppliers' Exhibit, Hotel Severin, Indianapolis, Ind., Tues.-Thurs., March 3-5.

American Society for Testing Materials, Committee Week and Spring Meeting, Cleveland, Ohio, Mon.-Thurs., March 2-5.

Illinois Petroleum Marketers Assn., Annual Convention, Hotel Pere Marquette, Peoria, Ill., Tues.-Thurs., March 10-12.

Wisconsin Petroleum Assn., Annual Convention and equipment Show, Schroeder Hotel, Milwaukee, Wis., Wed.-Fri. March 18-20.

American Society of Mechanical Engineers, Spring Meeting, Houston, Tex., Mon.-Wed., March 23-25.

APRIL

American Institute of Mining & Metallurgical Engineers, Cincinnati, O., Wed.-Fri., April 15-17.

National Petroleum Assn., 39th Semi-Annual Meeting, Hotel Cleveland, Cleveland, O., April 16-17.

American Assn. of Petroleum Geologists, 27th Annual Meeting, Cosmopolitan Hotel, Denver, Colo., Tues.-Fri., April 21-24.

Petroleum Industry Electrical Assn., Washington-Youree Hotel, Shreveport, La., Wed.-Fri., April 22-24.

MAY

Natural Gasoline Assn. of America, 21st Annual Convention, Mayo Hotel, Tulsa, Okla., Wed.-Fri., May 13-15.

International Petroleum Exposition, Tulsa, Okla., Sat.-Sat., May 16-23.

JUNE

American Society of Mechanical Engineers, Semi-Annual Meeting, Cleveland, Ohio, Mon.-Thurs., June 8-11.

American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., Mon.-Fri., June 22-26.

OCTOBER

American Society of Mechanical Engineers, Fall Meeting, Rochester, N. Y., Mon.-Wed., Oct. 12-14.

NOVEMBER

American Petroleum Institute, 23rd Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 9-13.

American Chemical Society, National Chemical Exposition and National Industrial Chemical Conference, Stevens Hotel, Chicago, Ill., Tues.-Sat., Nov. 17-21.

American Society of Mechanical Engineers, Annual Meeting, New York, N. Y., Mon.-Fri., Nov. 30-Dec. 4.

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WARREN C. PLATT, *Editor and Publisher*
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THIS WEEK WITH NPN

NPN BLUSHES

Well — we weren't surprised, but we did permit ourselves a modest blush when our eye fell on this!

"To succeed in any line of business one must be a student. This is especially true of the oil jobber for, unlike the commission agent, there is no one higher up to keep him posted and to make interpretations for him; therefore he is dependent on his own knowledge and judgment and if he makes a false step it is just too bad. The best place to get up to the minute information is from reliable trade journals.

"There are several good journals devoted exclusively to the oil industry and though it may be unbecoming for this writer to single out any one for recommendation, he believes that if you can subscribe for only one, perhaps the most suitable for most of our members is the NATIONAL PETROLEUM NEWS. It is a weekly, covers every field of the industry, and gives the latest information and interpretations 'hot off the stove'.

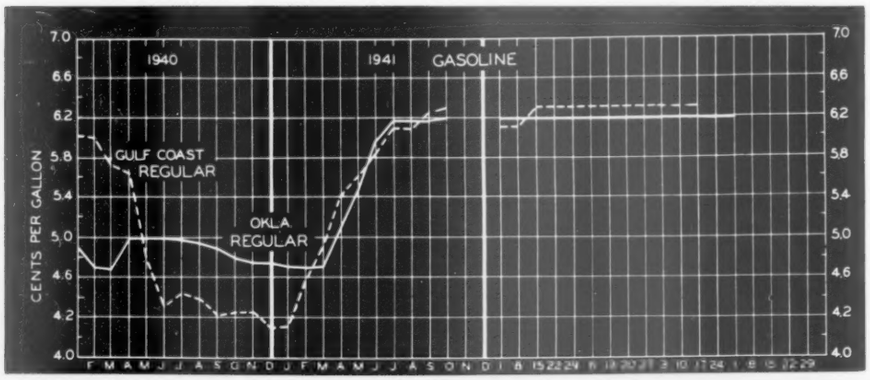
"The issue of Nov. 12th carries an article on the freezing of all petroleum prices which came as a surprise to many. It comes in the form of a 'request' but you had better consider it as an 'order', for to ignore it may mean that your source of supply will be cut off. . . . If you have not yet read the article referred to do so at once even though you have to borrow your competitor's copy of NATIONAL PETROLEUM NEWS."—*W. A. Parker, secretary of the North Carolina Oil Jobbers Assn. in a message to all N.C.O.J.A. members.*

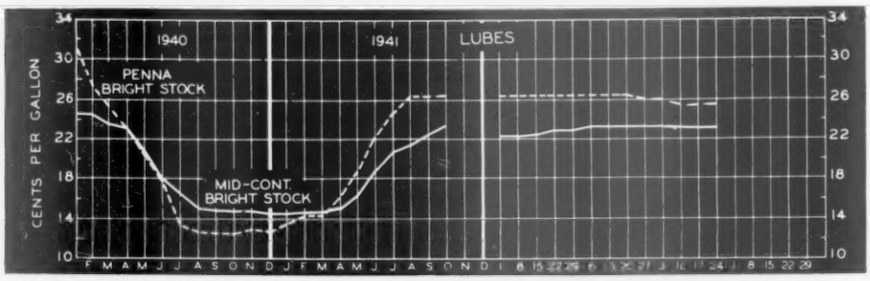
MORE STATISTICS

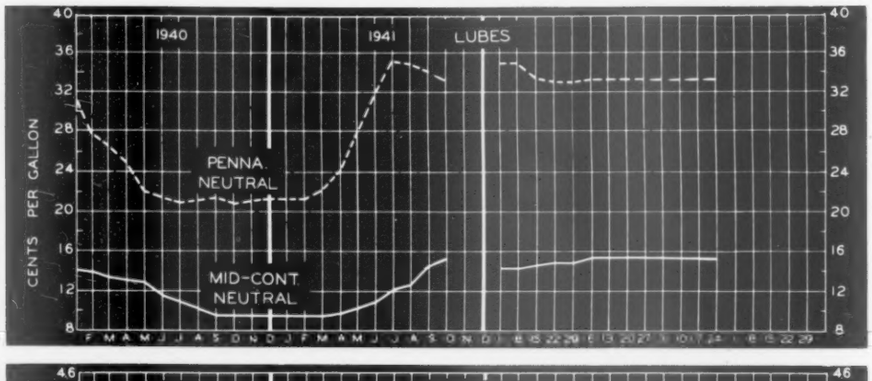
A new statistical feature, designed to give busy oil executives a concise picture of the industry's supply and demand position as reported by the U. S. Bureau of Mines, starts with this issue of NPN. This week, it appears on page 8. Look for it once a month.

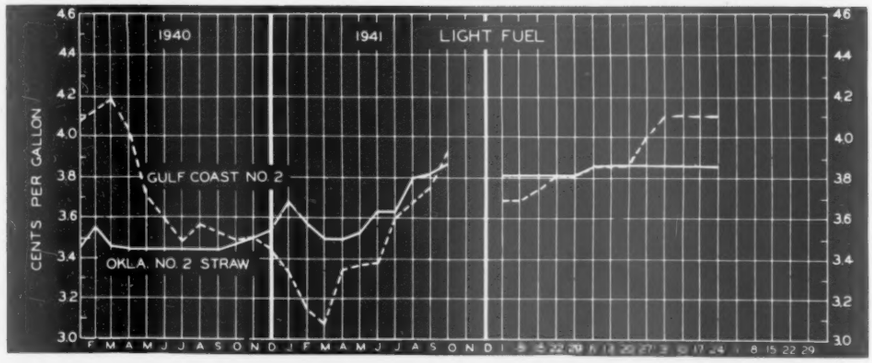
Refinery Prices

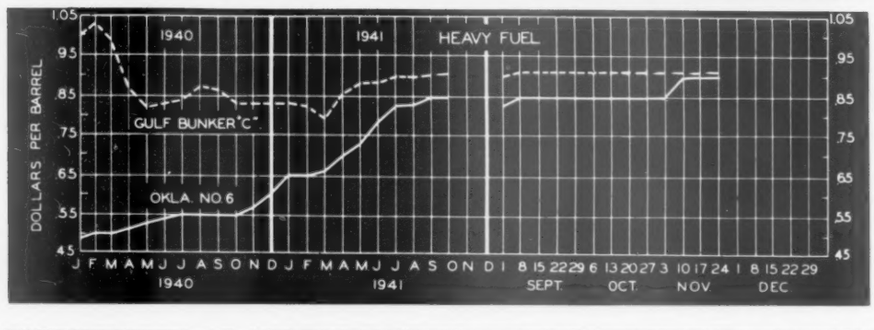
Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN










1940
1941
HEAVY FUEL
GULF BUNKER "C"
OKLA. NO. 6
DOLLARS PER BARREL
J F M A M J J A S O N D J F M A M J J A S O N D 1 8 15 22 29 6 13 20 27 3 10 17 24 1 8 15 22 29
1940
1941
SEPT.
OCT.
NOV.
DEC.

NPN Gasoline Index

	Dealer T.W.	Tank Car
	Cents per Gallon	
Nov. 24	10.02	6.80
Month ago	10.00	6.80
Year ago	8.69	5.95

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla. Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston, Gulf Coast.

*Beginning Nov. 17 Gulf Coast Min. 80 octane ('39 research) substituted for 72-74 octane (ASTM).

Pacific Coast Taxable Gasoline Sales

(Reported By California Oil & Gas Assn; Thousands of Gallons)

	September		
	1941	1940	% Gain
Arizona	11,030	8,933	23.47
California	184,301	160,767	14.64
Nevada	4,575	3,800	20.40
Oregon	28,385	24,155	17.51
Washington	37,946	32,695	16.06
Total 5 States	266,237	230,350	15.58

	9 Months Total Jan.-Sept.		
	1941	1940	% Gain
Arizona	93,132	83,249	11.87
California	1,577,050	1,407,115	12.08
Nevada	33,442	29,044	15.14
Oregon	223,946	197,008	13.67
Washington	311,771	279,213	11.66
Total 5 States	2,239,341	1,995,629	12.21

Natural Gasoline Production

(Bureau of Mines Figures; Thousands of Barrels)

	1941		1940
	Sept.	Aug.	Sept.
Appalachian	150	141	127
Ill., Mich., Ky	136	137	76
Oklahoma	776	776	792
Kansas	133	127	113
Texas	2,511	2,506	1,967
Louisiana	525	485	221
Arkansas	69	69	71
Rocky Mountain	204	212	186
California	1,160	1,186	1,153
Total U.S.	5,664	5,639	4,706
Daily Average	189	182	157

Summary of Forecasts for December 1941

(Bureau of Mines Figures; Thousands of Barrels)

	Forecast— Dec. 1941	Forecast— Nov. 1941	Actual Dec. 1940
Demand for Motor Fuel*:			
Domestic demand	52,200	55,500	46,413
Exports	2,800	2,500	1,983
Re-exports	†	†	.....
Total demand	55,000	58,000	48,396
Supply of Motor Fuel:			
Straight-run and cracked gasoline production	55,280	52,900	47,260
Natural gasoline used at refineries	4,720	4,850	3,783
Total refinery production	60,000	57,750	51,043
Benzol and other natural gasoline	1,800	1,650	1,863
Imports	†	†	4
Increase in finished stock	6,800	1,400	4,514
Decrease in finished stocks	.....	.....	.....
Available supply	55,000	58,000	48,396
Crude-Oil Requirements:			
Per cent yield of gasoline from crude	43.59	43.90	43.08
Refinery crude required	126,810	120,500	109,703
Daily average	4,090	4,017	3,538
Foreign crude runs	4,200	4,100	4,246
Exports	2,500	3,500	2,074
Fuel and losses	3,200	2,200	2,905
Total demand for domestic crude	128,310	122,100	110,436
Daily average	4,139	4,070	3,562
Increase in domestic stocks	.....	.....	84
Actual production	.....	.....	110,520
Daily average	.....	.....	3,565

*The term "Motor Fuel" as used in this report includes gasoline, naphtha, and benzol used for all purposes, but does not include heavier distillates used in the operation of tractors or burned in Diesel engines.

†Motor fuel imported in bond to be re-exported is excluded from the forecasts of both imports and exports.

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T I C S

Crude Oil Stocks

(Bureau of Mines Figures; Thousands of Barrels)

Grade or Origin	Nov. 1	Nov. 8	Nov. 15	Change from Nov. 8
Pennsylvania Grade	3,805	3,767	3,773	+ 6
Other Appalachian	1,432	1,426	1,452	+ 26
Lima-Michigan	1,263	1,207	1,237	+ 30
Illinois-Indiana	18,765	18,611	18,046	− 565
Arkansas	2,576	2,375	2,379	+ 4
Kansas	6,976	6,967	6,710	− 257
Louisiana:	12,440	12,591	12,400	− 191
Northern	3,745	3,784	3,625	− 159
Gulf Coast	8,695	8,807	8,775	− 32
Mississippi	2,137	2,149	2,217	+ 68
New Mexico	6,988	6,743	6,816	+ 73
Oklahoma	52,142	52,130	52,338	+ 208
Texas:	81,999	80,997	80,542	− 455
East Texas	21,238	20,315	20,126	− 189
West Texas	17,576	17,299	16,935	− 364
Gulf Texas	23,316	23,790	23,884	+ 94
Other Texas	19,869	19,593	19,597	+ 4
Rocky Mountain	15,888	16,091	15,941	− 150
California	34,593	34,405	34,227	− 178
Foreign	2,336	2,370	2,321	− 49
Total U. S. refinable	243,340	241,829	240,399	−1,430
Heavy in California	9,884	9,771	9,951	+ 180
East Coast refinery crude	13,054	12,790	12,694	− 96
East Coast pipe line crude	506	472	469	− 3
East Coast refined products	67,757	67,788	68,041	+ 253
Total all oils	81,317	81,050	81,204	+ 154
East Coast refined stocks in bond	750	750	[1]650	− 100

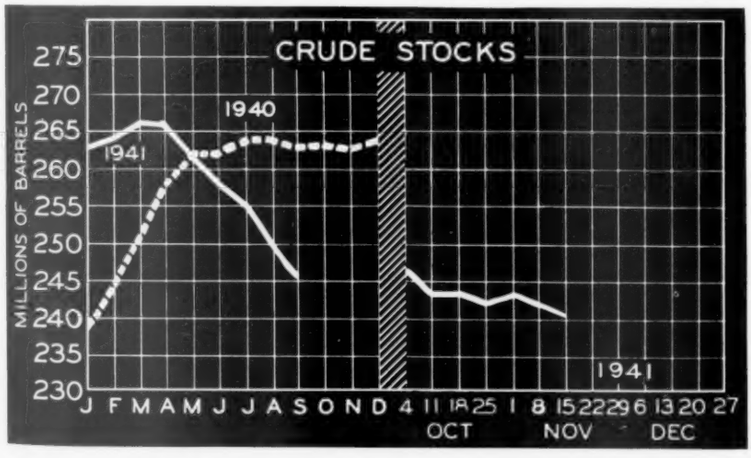
[1] Includes estimates of 100 for distillate and 550 for residual, which estimates should be added to B. of M. current totals for all oils as shown when comparing with a year ago.

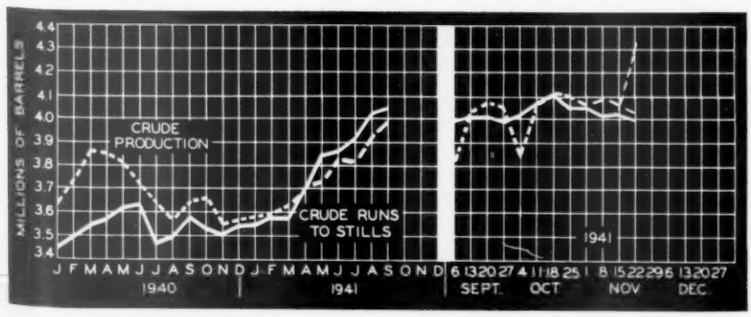
Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Nov. 22 Barrels (Daily Average)	WEEK ENDED Nov. 15 Barrels (Daily Average)		WEEK ENDED Nov. 22 Barrels (Daily Average)	WEEK ENDED Nov. 15 Barrels (Daily Average)
Oklahoma	427,200	427,500	Indiana	18,100	17,600
Kansas	254,250	255,350	Eastern (Ill. & Ind. excluded)	95,150	92,300
Nebraska	5,850	5,900	Michigan	57,600	61,300
Texas	1,394,450	1,460,200	Wyoming	83,500	74,400
Louisiana	348,000	351,750	Montana	21,450	21,400
Arkansas	73,350	72,800	Colorado	5,250	5,650
Mississippi	79,000	76,300	New Mexico	117,400	116,450
Illinois	405,100	384,650	California	651,200	663,100
			Total U. S.	4,336,850	4,086,850

Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines. Weekly stocks figures beginning Aug. 16, 1941 and monthly stocks figures beginning July, 1941 do not include shuttle or lease lend material formerly reported as part of inventories.





Refinery operations graphs and tables appear on page 8.

NPN's Washington Directory Of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry: (List is as accurate as possible but is only tentative, as changes are constantly occurring in room and phone numbers)

Petroleum Co-ordinator—Harold L. Ickes
Interior Department (New Building), 18th and C Streets, N. W., Room 6156, Extension 500

Deputy Petroleum Co-ordinator—Ralph K. Davies
New Interior Building, Room 6654, Extension 3831-2

Interior Department Phone Number—Republic 1820

Petroleum Co-ordinator's Staff
6th and 7th Floors, New Interior Building

Special Assistants—
George W. Holland, Room 7312, Extension 643
Gordon M. Sessions, Room 6620, Extension 3844
J. Elmer Thomas, Room 6420 Extension 4735

Director of Production—
Robert E. Allen, Room 6647, Extension 3334

Director of Refining—
Wright W. Gary, Room 6637, Extension 3233

Director of Transportation—
H. A. Gilbert, Room 6629, Extension 4418

Director of Marketing—
John W. Frey, Room 6623, Extension 4646

Director of Research—
Edward B. Swanson, Room 7313, Extension 649

Director of Conservation—
Everett Lee De Golyer, Room 6418, Extension 4459

Chief Counsel—
J. Howard Marshall, Room 6649, Extension 4100

OPM Priority Consultant—
James E. Hughes, Room 7416, Extension 4616

Executive Officer—
Stanley W. Crosthwait, Room 6515, Extension 4363

Special Liaison Agent Between OPC and OPM—
Joseph H. Ellender, Room 6525, Extension 4635

Director of Information—
Herbert A. Yocom, Room 6620, Extension 3844

On Special Assignment to Information Division—
Walton Onslow, Room 6622, Extension 3844

Foreign Division—
W. D. Crampton, Room 7525, Extension 4788

Petroleum Receptionist—
Mrs. Rosalie E. Reid, Room 6635, Extension 3429

Oil Section, Office of Production Management—
New Social Security Building, Room 4613. **Dr. Walter Whitman,** petroleum consultant for OPM, Phone number Republic 7500, Extension 476, 477 and 478. Assistant, **C. C. Monrad**

Office of Price Administration—
4th and Independence Avenue, Temporary Building D, Republic 5050. **Dr. J. K. Galbraith,** assistant administrator in charge of price division, Extension 673; **George Doffing,** price executive of fuel section, Extension 684

U. S. Maritime Commission—
M. W. Bowen, tankers, Commerce Department, Room 4319. Capitol's Phone Number—NAtional 3120

Congressional Oil Investigating Committee—
Rep. Wm. J. Cole, Jr., Chairman, New House Office Building, Room 1535, Extension 699

Senatorial Oil Shortage Investigating Committee
Senator Francis Maloney, chairman, Senate Office Building, Room 354, NAtional 3120, Extension 1196

★

A. W. Roth

★

New President . . .

Indiana Independent Petroleum Association

"I have always felt that while competition is necessary to the success of any business, co-operation among members of an industry is also necessary and as a result I have been very active in the affairs of the association."

That's the philosophy of A. W. Roth of Greensburg, Ind., E. and R. Independent Oil Co., who has accepted the biggest job in the Indiana Independent Petroleum Assn.

I.I.P.A's new president was born in Cincinnati, Ohio, and educated in Chicago schools where his parents moved when he was twelve. Mr. Roth started out as an advertising salesman. later worked in a bank and still later as an accountant connected with the International Accountants Society, Inc.

In the twenties, Mr. Roth entered the oil business when he and his father-in-law purchased the Cincinnati Oil Refining Co., Cincinnati. In 1935, they moved to Greensburg, and organized the E. and R. Independent Oil Co., handling Phillips Petroleum Co. products.

Mr. Roth is president of the Kiwanis Club of Greensburg and devotes his "hobby" time to his family: Mrs. Roth and a four-year-old son.

NATIONAL PETROLEUM NEWS

VOLUME 33 WEDNESDAY, NOVEMBER 26, 1941 NUMBER 48

8 Complaints Hit Rail Rate On Heavy Oil

NPN News Bureau

TULSA, Nov. 24.—Four state oil jobber associations and four "co-ops" today filed complaints with Interstate Commerce Commission objecting to present rail rate basis on heavy or low-grade oils shipped from southwestern refining origins to the Mid-West.

Complaints, filed against almost 100 railroads, also attacked present use of estimated 7.4 lbs. per gal. weight on heavy oil shipments.

Complainants are: Iowa Independent Oil Jobbers Assn.; Wisconsin Petroleum Assn.; Illinois Independent Petroleum Marketers Assn.; Missouri Independent Oil Jobbers Assn.; Iowa Farm Service Co. of Des Moines; Co-operative Service Co. of Waterloo; Midland Co-operative Wholesale of Minneapolis with more than 250 individual co-operative units in Minnesota, Wisconsin, Iowa, North and South Dakota.

Hit Rails' Practice

Practice of rails charging the same rates on heavy oils as for light oils is attacked in each of the complaints. Complainants petition ICC to require rails to publish "reasonable, just, lawful, non-discriminatory and non-preferential rates" in place of those now in effect. And while

(*Continued on Page* 16)

OPC Gets Personal Plea From Texans For Crude Advance

NPN News Bureau

WASHINGTON, Nov. 25.—A group of Texans, headed by Col. E. O. Thompson, Texas Railroad Commission chairman, conferred with Petroleum Co-ordinator Ickes today about a 35-50c crude price hike. Mr. Thompson was accompanied by Tom Graham and Henderson Croquat, independent producers, and Assistant General Manager Elmer Moore of South Texas Regional Chamber of Commerce.

As the Texas group saw the problem, public interest was affected in two ways:

1—Marginal wells must be kept producing to obtain greatest ultimate recovery.

2—New discoveries must be

(*Continued on Page* 12)

BULLETINS

FREEZE EXPLAINED

WASHINGTON — Appearing before District No. 1 marketing committee here Nov. 25, George Doffing, OPA's oil price administrator, made following statements regarding price "freezing" action of Nov. 7:

OPA requested that petroleum product prices be "frozen" as of Nov. 7, not as of Oct. 1, as request was generally interpreted. OPA merely wanted "information" on price advances between Oct. 1 and Nov. 7.

OPA had no intent of conveying thought of halting all further price increases.

If one oil company "justifies" a price advance to OPA, competing oil companies can follow the price advance without specific permission from OPA but must notify the price control agency of their action.

OPA approval is not needed for price fluctuations so long as ad-

(*Continued on Page* 12)

Oil Price 'Freeze' Move Still Confuses Industry

NPN News Bureau

CLEVELAND, Nov. 25—Eighteen days ago Office of Price Administration telegraphed "leading producers and marketers" requesting no advances in prices for crude and petroleum products without prior permission from OPA—but there is still confusion throughout the industry, from producer down the line to the corner filling station, as to what OPA's order meant and what sort of "justification" would be required for a price advance.

Many marketers, especially retail dealers, apparently haven't even heard of the OPA price "freeze". Word from Washington is that OPA is still working on some "plan" for communicating its "request" to oil men not numbered among "leading producers and marketers".

OPA's Authority Questioned

Many in the industry are asking, "By what authority does Henderson 'freeze' oil prices?" The answer, apparently, is "None". Another question is—"What can Henderson do, if I raise my prices to levels that will cover increased costs due to the defense program?" And the answer seems to be, "Nothing".

Back in August, Leon Henderson's price control agency, then known as OPACS, prescribed a set of "fair prices" for gasoline in 23 eastern cities. This action was taken after complaints by the American Automobile Assn. For weeks thereafter, the A.A.A. made reports to the price control agency that retail gasoline dealers were advancing their prices above OPA's "ceiling". As late as Sept. 23, dealers in 17 of these 23 cities were "violating" OPA's prices.

Mr. Henderson banged away in the newspapers at some of these price advances, but nothing apparently was done about it.

Motorists' Complaints Fade

Today, in Washington at A.A.A. headquarters, it was indicated to NPN's representative that the motorists' organization had discontinued reporting gasoline price "violations" to OPA. "There were comparatively few complaints from our members, anyway," said an A.A.A. spokesman, adding "it has ceased to be a news story anymore."

For awhile, there was talk that OPA, through the council of mayors, headed by New York's Mayor LaGuardia, would seek to have city authorities revoke the licenses of any retailers who "violated" OPA's price schedules. But nothing has been heard of that proposal recently.

Meanwhile, protests are ap-

Henderson Orders Wax Price 'Ceiling'

NPN News Bureau

WASHINGTON, Nov. 21 — Regulation of wax prices, anticipated by the oil industry ever since conferences on the subject were held early in October between refiners and Office of Price Administration officials, became a reality today with the signing of Price Schedule No. 42 by OPA Administrator Leon Henderson.

Mr. Henderson's maximum prices on wax, which became effective Dec. 1, are for the most part below Oct. 1 levels at which other oil prices are now pegged by OPA's Nov. 7 "request" (*NPN Nov.* 12, *p.* 11). But unlike the all-inclusive, price-freezing "request" of Nov. 7, which was issued through telegrams and letters to "leading" factions in the producing, refining and marketing branches of the industry, today's wax schedule is "directed" under authority vested in Mr. Henderson by "Executive Order No. 8734."

'Prices Unjustified'

OPA's ceiling on wax was set because, after consultation with producers of both crude scale and refined wax, OPA determined that there was "no justification for crude scale prices in excess of 4.25c per lb. (122-124°) and refined wax prices over 5.2c per lb. (123-125°), "said an OPA press release which accompanied the ceiling schedule.

Mr. Henderson's prices for yellow and white crude scale wax range from 4.25c per lb. to 5.25c per lb. in loosely-packed barrels, depending upon the melting point. Prices on semi-refined wax are within the same range. Fully refined wax price maximums vary from 5c on wax with a melting point of 120-122° to 10.5c for a melting point of 149-151° (both AMP).

OPA Sets 'Rules'

On and after Dec. 1, no sales of 1000 lbs. or more of wax are to be made above maximum prices, contracts or other commitments notwithstanding, states the order.

Every person selling or buying more than 1000 lbs. of paraffin wax after Dec. 1 shall keep complete records of each purchase or sale, showing the date, name and address of the buyer or the seller, price paid or received, and specifications and quantity—including the kind and size of the container

(*Continued on Page* 7)

More Oil Jobbers Protest OPA Price 'Freeze'

parently pouring in on OPA from marketers in many sections of the country, judging from the carbon copies of complaints being received by NPN. Principal objection of jobbers seems to be against the OPA "arbitrarily" taking this drastic action without first giving them a hearing.

* * *

South Dakota

November 19, 1941

Leon Henderson
Office of Price Administration
Washington, D. C.

Dear Sir:

The South Dakota Independent Oil Men's Association has a paid membership of 243 of the 340 independent jobbers licensed to do business in the state of South Dakota. At a meeting of our Board of Directors held on November 13th, it was ascertained that no jobber operating in South Dakota had received any direct notice of the action taken by your department on November 7th, which requested that no price advances be made in petroleum products without prior notice and approval from the Office of the Price Administrator.

The Board of Directors took action and instructed the making of this protest. For several months the conditions under which independent jobbers operate has been precarious due to increase in tank car prices and the freezing of the tank wagon prices. During this period their operating costs have increased as a result of the higher prices paid for materials purchased and the increase in wages. Jobbers in South Dakota are small business men who are dependent upon current operating profits for their existence. They have no large reserves or resources upon which they can draw to meet operating losses.

The jobbers of South Dakota feel that they should have been given some notification prior to the enactment of this order; that this notice should have been given direct to them or through their organization and not left in the dark as they were to be informed of this important ruling through trade journals.

Yours very truly,
South Dakota Independent Oil Men's Assn.
J. E. Adrian, Secretary

* * *

Tennessee

WHEREAS, the Tennessee Oil Men's Association, representing the independent petroleum marketers of Tennessee, has been advised, through the press, of a request, dated November 7th, 1941, by the Administrator of OPA, the Honorable Leon Henderson, which is, in practical effect, an order freezing the prices of all petroleum products; and

WHEREAS, the oil industry is a vital factor in civilian and military relationships; and

WHEREAS, those engaged in the oil industry, fully realizing that our Nation faces the greatest crisis in its history, are individually and collectively willing to make all necessary sacrifices in order to carry out our National Defense program; but

WHEREAS, the above request of the Administrator has apparently been issued without giving the independent marketers an opportunity to be heard, although the effect of this request is most vital to their existence and continued operation; now, therefore,

BE IT RESOLVED, by the Tennessee Oil Men's Association, in special Board of Directors' meeting assembled, on this the 14th day of November, 1941, for the specific purpose of giving consideration to the things and matters hereinbefore referred to, that this organization PROTEST the issuance of this request, for the following reasons:

(1) That to attempt to regulate or restrict any industry or place a ceiling on its price structure, without placing corresponding ceilings upon wages, rents, equipment, materials, supplies and other factors which enter into its cost of operation would be destructive to that industry; and

(2) That this, or any other Governmental control or regulation, is contrary to the fundamental American principles of freedom, justice and constitutional rights; and

(3) That current conditions, largely due to the National Defense program, have necessitated increased wages and increased costs of all other items included in the cost of operation, and these increases must be reflected in the ultimate selling price if the independent marketer is to survive; and

(4) That the oil industry has been a long-suffering recipient of regulations, restrictions and ever-increasing taxation and tax-gathering duties; and

(5) That in the past it has been too easy, from time to time, to saddle it with increased burdens, out of proportion to those borne by others; until now the Tennessee Oil Men's Association feel that the time has come to say, with all the vigor at its command:

(a) That the oil industry should not continue to be singled out to carry more than its just proportion of the common burden, nor as an accessible target for unjustifiable, discriminatory regulation and restriction; and

(b) That the law of supply and demand and the keen competition within the oil industry have, at all times, kept the price level of petroleum products, and particularly gasoline, below that of any other commodity; and

(c) That these price levels have often been unprofitable for all branches of the industry, and that, at the present time, these unprofitable levels exist in many places; and

(d) That these basic factors preclude the necessity for any Governmental price control for petroleum products; and

(e) That the oil industry, by reason of its demonstrated foresight and efficiency of operation, is amply able to meet both the present civilian and defense needs of the Nation, and the future needs, if permitted to function freely and unhampered.

BE IT FURTHER RESOLVED, that copies of this resolution be sent to the Honorable Leon Henderson, Administrator of OPA, the Honorable Harold Ickes, Petroleum Coordinator for National Defense, Mr. B. L. Majewski, Chairman, Marketing Committee, District No. 2, Petroleum Industry Committee, and to our Senators and Representatives in the Congress of the United States.

* * *

Kansas

November 22, 1941

Mr. Leon Henderson,
Price Administrator,
Washington, D. C.

Dear Sir:

It has come to my knowledge that there is a movement on foot to freeze the prices of all petroleum products at their present level.

We have been operating for some time under competitive conditions which have caused us to maintain sub-normal service station and tank wagon prices. In fairness to all independent marketers I urge that these prices be raised to normal levels before this freezing process takes place. In some instances our margin of profit is less than for several years; refinery prices have increased but we must continue to sell at the old price because of "cut throat" competition.

As you can readily see, the above described condition works a hardship on our employees because we cannot compete with wages paid by some defense industries.

We feel that as a tax collector for the State and National government, working without any remuneration and guaranteeing one hundred per cent collections, we are entitled to a fair profit on the merchandise we sell.

We urge your consideration of the above statements.

Yours truly,
G. A. Rolfe
R-B Oil Co.,
Fairview, Kansas.

* * *

To All K.O.M.A. Members—
Gentlemen:

On November 11 I received a letter from Warren C. Platt, editor of the NATIONAL PETROLEUM NEWS and *Platt's Oilgram*, in which he urged that each of you write a letter to Leon Henderson, Price Administrator in Washington, D. C., protesting the freezing of the price of all petroleum products. This order was issued by Leon Henderson on November 7 and on November 12 an article appeared in the NATIONAL PETROLEUM NEWS and also in the *Oilgram*.

In your letter to Mr. Henderson I would point out that the prices here, both service station and tank wagon are sub-normal and that at least before this freezing process takes place, prices should be raised to normal levels. If this is not done the independent marketer is going to suffer seriously. Defense industries within the State have taken a great deal of the available man power away from the bulk plants and service stations, due to the fact that in some cases higher wages were paid to these workers by these defense industries. I would also point out that you had always tried to pay a good wage scale, but due to unfavorable markets, you were not able to compete with wages paid by some defense industries. I would advise that some of these sub-normal prices were caused by people who were not originally interested in the marketing business.

I would state that you believe as a tax collector for the State and Federal government, a service that you performed without pay, you were entitled to make a fair profit on the merchandise you sell. The markets in Kansas today were not a reflection of a fair profit, as compared to a lot of other commodities.

I believe this thing is very urgent and that each of you should write to Mr. Henderson. Certainly Warren Platt has always done all he could to be helpful to the independent marketer. I am sure, for your own welfare, you should write this letter and state your case clearly, and I think you will find Mr. Henderson will try to be fair with you.

If possible, I would send a copy of the letter to Mr. Henderson to Warren Platt, whose address is 1213 West Third Street, Cleveland, Ohio.

Very truly yours,
R. O. Brown, President
Kansas Oil Men's Assn.

* * *

Nebraska

November 17, 1941

Editor, NPN

I received your letter of November 11th relative to Mr. Henderson's price fixing program, and although I can not definitely talk for the association of oil jobbers of Nebraska, I will certainly express my own personal views, and will take this up at our regular meeting the first of December and get the views of the entire jobber organization.

When I received your letter that Mr. Henderson has requested the freezing of petroleum prices, and has notified 80 oil companies and suppliers of the United States, I was at a loss to know what you were talking about, and upon reading over your magazine last week, what you meant was brought to me very forcibly.

If our price was frozen as of November 7th in the area we operate, we would have a gross profit on light oils of 1.55c per gallon. Do not miss the word "gross" and think of "net" profits as the net profit is so small that there are not enough ciphers to be able to put it in print.

If Mr. Henderson wants to freeze the prices then he certainly should give the jobbing industry a chance to arrive at a fair price to the consumer and a fair profit to themselves, and then set that price including all labor, taxes and everything else so that we will know where we are going.

I am sure that the jobbers in the State of Nebraska will be very much against a program of this type.

Thanking you for calling this to our attention, we remain

Very truly yours,
Nebraska Petroleum Marketers, Inc.
Leroy L. Snyder, President

OPA Clarifies Price 'Freeze'

NPN News Bureau

CLEVELAND, Nov. 22. — Further clarification of the scope of its "request" to freeze all oil industry prices was contained in a letter from Office of Price Administration to NPN this week.

Signed by J. K. Galbraith, assistant administrator, and dated Nov. 17, the letter stated OPA's "request" of Nov. 7 and supplemented Nov. 10, "covered sales of all petroleum and petroleum product prices by all producers, refiners, marketers and resellers and hence would include all product sales by service station operators.

Doesn't Cover 'Services'

"While this request would not necessarily cover services performed by service station operators, such as car washing, battery service, tire service, etc., it would apply to those services where the charge for same is based primarily on the cost of the petroleum products used in that particular service. For instance, an oil change would not necessarily involve a service charge. The price for an oil change is based on the actual sales price of the oil used in the performance of the service. The same would apply to differential and transmission service where the lubricants are applied and the charge for the service is based on the amount of lubricant furnished."

OPM Cuts Production Of Light Trucks

NPN News Bureau

WASHINGTON, Nov. 22. — Nearly 14,000 fewer light trucks will come off assembly lines for civilian use in January, 1942, as compared with January of this year, under a Limitation Order issued Nov. 14 by Office of Production Management.

January production will be 35.9% less than it was in the same month of this year. Production last January totaled 37,730 light trucks for civilian use. This coming January, the maximum output allowed is 24,169.

Bureau Predicts 12.5% Rise In December Gasoline Demand

NPN News Bureau

WASHINGTON, Nov. 21. — U. S. Bureau of Mines today forecast a 52,200,000-bbl. motor fuel demand for December—an increase of 12.5% over December, 1940.

Stocks of finished and unfinished gasoline totaled 79,963,000 bbls. on Sept. 30, Bureau said. Inventories increased about 2,300,000 bbls. during October, according to American Petroleum Institute statistics, and this would bring total gasoline stocks to about 82,300,000 bbls. on Oct. 31—3,000,000 bbls. higher than those of previous year—Bureau stated. An estimated stock increase of 6,800,000 bbls. is predicted.

Bureau forecast refinery gasoline production of 60,000,000 bbls. in December, distributed among refining districts as follows:

District	Barrels
East Coast	7,380,000
Appalachian	2,270,000
Indiana-Illinois	12,790,000
Kansas	3,420,000
Oklahoma	3,010,000
Inland Texas	4,020,000
Texas Gulf Coast	14,690,000
Louisiana Gulf Coast	1,990,000
Inland Louisiana-Arkansas	1,210,000
Rocky Mountain	1,620,000
California	7,600,000
Total	60,000,000

Bureau estimated benzol production and direct sales of natural gasoline at 1,800,000 bbls. and 4,720,000 bbls. of natural gasoline to be blended at refineries.

Yield of straight-run and cracked gasoline was estimated at 43.59% which applied to production of 55,280,000 bbls. gives crude runs of 126,810,000 bbls.

Bureau estimated December motor fuel exports at 2,800,000 bbls. as compared with 1,983,000 bbls. in December, 1940.

Estimated daily average crude oil demand forecast by states for December follows (as no changes in crude stocks are involved in these estimates, they represent demand rather than production, states Bureau):

State	Barrels
Texas	1,479,700
California	635,800
Oklahoma	460,000
Illinois	426,500
Louisiana	340,000
Kansas	260,700
New Mexico	116,100
Wyoming	81,900
Arkansas	76,500
Mississippi	60,300
Michigan	52,300
Pennsylvania	47,300
Montana	20,700
Indiana	19,700
New York	14,800
Kentucky	13,600
West Virginia	11,800
Ohio	9,400
Nebraska	6,100
Colorado	5,800
Other	.....
Total	4,139,000

Henderson Orders Wax Price 'Ceiling'

(*Continued from Page 5*)

—of the paraffin wax purchased or sold, states OPA.

'Teeth' of Order

"In the event of refusal or failure to abide by the price limitations, records and report requirements or other provisions of this schedule, or in the event of any evasion or attempt to evade the price limitations or other provisions of this schedule, the Office of Price Administration will make every effort to assure (a) that the Congress and the public are fully informed thereof, (b) the powers of the government, both state and federal, are fully exerted in order to protect the public interest and the interests of those persons who comply with this schedule, and (c) that the procurement services of the government are requested to refrain from selling to or purchasing from those persons who fail to comply with this schedule. Persons who have evidence of the offer, receipt, demand or payment of prices higher than the maximum prices, or of any evasion or effort to evade the provisions hereof, or of speculation or manipulation of prices of paraffin wax, or of the hoarding or accumulating of unnecessary inventories thereof, are urged to communicate with the Office of Price Administration," the order states.

Price Ceilings Listed

Here is the part of Mr. Henderson's order which specified ceiling prices:

"Appendix A.
"Maximum Prices for Paraffin Wax
"(a) More than 10,000 pounds in slack barrels and slabs loose

"The following maximum prices are established for paraffin wax of the grades listed below in quantities of 10,000 pounds or more:

"(1) Crude Scale (White and Yellow)

	Slack Barrels
122/124 A.M.P.	$.0425
124/126 A.M.P.	.0425
129/131 A.M.P.	.0475
132 A.M.P. or higher	.0525

"(2) Semi-Refined

	Slack Barrels
122/124 A.M.P.	$.0425
124/126 A.M.P.	.0425
128 A.M.P. or higher	.0525

"(3) Fully Refined

	Slabs Loose
120/122 A.M.P.	$.050
123/125 A.M.P.	.052
125/127 A.M.P.	.052
128/130 A.M.P.	.056
130/132 A.M.P.	.0585
131/133 A.M.P.	.0585
133/135 A.M.P.	.0615
135/137 A.M.P.	.064
138/140 A.M.P.	.0715
143/145 A.M.P.	.0810
149/151 A.M.P.	.1050

"The above prices for paraffin wax are f.o.b. seller's shipping point[1] with freight equalized at the rate for a shipment of identical quantity over standard routes from the following basing points: Whiting, Ind., New York, N. Y., Philadelphia, Pa., Texas Gulf Ports, New Orleans, La., Baton Rouge, La.

"The maximum price which a purchaser may pay for any of the various grades of paraffin wax on this Schedule delivered to him from a seller's shipping point shall not exceed the maximum price set forth above for the particular grade plus transportation charges as follows: either the transportation rate from that basing point to destination which produces the lowest transportation charge or the transportation rate from the actual shipping point to destination, whichever transportation rate is less.

"(b) Tank Cars

"The maximum prices for paraffin wax sold in tank cars shall be the maximum prices established in paragraph (a) minus $.0005 per pound.

"(c) Less than 10,000 pounds

"For paraffin wax sold in quantities of 1000 pounds or more, but less than 10,000 pounds, the maximum prices shall be the maximum prices set forth in sub-paragraphs (1), (2) and (3), of paragraph (a) above, plus $.015 per pound, delivered in the United States.

"(d) Paraffin Wax sold in bags

"The maximum prices for paraffin wax sold in bags shall be the maximum prices established in paragraphs (a) or (c) above, whichever the case may be, plus $.004 per pound.

"(e) Paraffin Wax sold in other containers

"The maximum prices for paraffin wax sold in containers other than those specified above shall be the maximum prices established in paragraphs (a) or (c) above, whichever the case may be, plus a reasonable charge for containers.

[1] When used in this Schedule, the term 'seller's shipping point' means point of manufacture or other point of distribution maintained by a manufacturer or seller."

Former Sears Executive Heads OPA Branch

NPN News Bureau

WASHINGTON, Nov. 24. — Office of Price Administration's Chicago headquarters will be directed by John C. Weigel, former Sears Roebuck & Co. executive, it was announced last week.

The Chicago office, including representatives of the price division, general counsel's office, consumers' division, and accounting staff, was due to start functioning today. Work will be limited to investigations, inspections, and compliance problems referred from Washington, and to answering queries from business enterprises affected by price actions of OPA.

Cut Maximum Gas Production

Special to NPN

AUSTIN, Nov. 22. — Wells in the Texas Panhandle have had their 500,000 cu. ft. maximum gas production restored, Texas Railroad Commission revealed last week.

Petroleum Supply and Demand September 1941

(Bureau of Mines Figures; Thousands of Barrels)

	Stocks Aug. 31, 1941	September				Stocks Sept. 30, 1941	Change in Stocks
		Production	Imports	Domestic Demand	Exports		
Finished Gasoline	73,094	54,503	232	52,788	2,280	72,761	— 333
Unfinished Gasoline	7,283	81*	.....	.....	.....	7,202	— 81
Natural Gasoline	6,111	5,664	.....	6,207	195	5,373	— 738
Total Motor Fuel	86,488	60,086	232	58,995	2,475	85,336	— 1,152
Kerosine	11,636	5,949	15	5,624	314	11,662	+ 26
Distillate Fuel Oil	47,163	16,234†	795	11,670	1,110	51,412	+4,249
Residual Fuel Oil‡	93,210	30,270§	4,217	32,155	1,469	94,073	+ 863
Lubricating Oil	7,206	3,427	.....	2,638	580	7,415	+ 209
Wax	307	237	4	192	72	284	— 23
Coke	1,860	789	...	736	63	1,850	— 10
Asphalt	3,327	3,741	58	4,393	126	2,607	— 720
Road Oil	812	1,308	.....	1,462	.....	658	— 154
Still Gas	...	6,625	.....	6,625	.....	...	.....
Miscellaneous	385	306	...	308	39	344	— 41
Unfinished Oils	42,005	336 (Net)	123	.....	.....	42,464	+ 459
Total, Ref'd Products	294,399	129,308	5,444	124,798	6,248	298,105	+3,706
Crude Oil	249,620	119,446	4,662	124,717	2,900	246,111	—3,509
Total, All Oils	544,019	248,754	10,106	249,515	9,148	544,216	+ 197
Aviation gasoline included in Motor Fuel above	7,363	1,876	...	1,235**	483	7,521	+ 158

*Represents net excess of unfinished stocks rerun over unfinished stocks produced. †Includes 210,000 bbls. transferred from crude oil. ‡Includes heavy, non-gasoline bearing crude in California. §Includes 2,152,000 bbls. transferred from crude oil. **Includes 126,000 bbls. transferred to regular gasoline stocks.

Runs to Stills and Output of Refineries

(Bureau of Mines Figures; Thousands of Barrels)

	September 1941		August 1941		September 1940	
	Production	% Yield From Crude	Production	% Yield From Crude	Production	% Yield From Crude
Total Motor Fuel Production	60,167		60,740		52,313	
LESS:						
Natural Gasoline Production	5,664		5,639		4,706	
Benzol Blended	266		277		263	
Finished Gasoline Production	54,237		54,824		47,344	
Straight-run	24,039		24,790		22,254	
Cracked	30,198		30,034		25,090	
Change in Unfinished Gasoline Stocks*	—81		+11		—575	
Gasoline Produced From Crude Oil	54,156	44.58	54,835	44.02	46,769	43.40
Kerosine	5,949	4.90	5,850	4.70	6,062	5.63
Distillate Fuel Oil	16,024	13.19	15,409	12.37	14,736	13.67
Residual Fuel Oil	28,118	23.15	29,836	23.95	25,504	23.67
Lubricating Oil	3,427	2.82	3,561	2.86	2,682	2.49
Wax	237	0.20	194	0.16	142	0.13
Coke	789	0.65	685	0.55	596	0.55
Asphalt	3,741	3.08	4,074	3.27	3,326	3.09
Road Oil	1,308	1.07	1,478	1.18	1,080	1.00
Still Gas	6,625	5.45	6,991	5.61	6,024	5.59
Miscellaneous	306	0.25	333	0.27	243	0.23
Change in Stocks, Unfinished Oils*	+336	0.28	+509	0.41	+64	0.06
Shortage	465	0.38	817	0.65	529	0.49
CRUDE RUNS TO STILLS	121,481	100.00	124,572	100.00	107,756	100.00
Daily Average	4,049		4,018		3,592	

*Difference between unfinished stocks rerun and unfinished stocks produced.

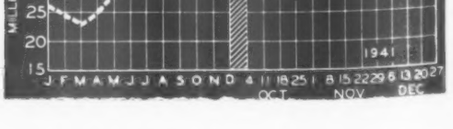
Refinery Operations

(American Petroleum Institute Figures in Thousands of Barrels of 42 Gallons each)

Districts	Daily Average Crude Runs to Stills Week Ended Nov. 22	Daily Average Crude Runs to Stills Week Ended Nov. 15	Per Cent of Reporting Capacity Operated Week Ended Nov. 22	Per Cent of Reporting Capacity Operated Week Ended Nov. 15	Gasoline Production At Refineries in Natural Blended Week Ended Nov. 22	Gasoline Production At Refineries in Natural Blended Week Ended Nov. 15	Total Stocks Finished & Unfinished Gasoline Week Ended Nov. 22	Total Stocks Finished & Unfinished Gasoline Week Ended Nov. 15	Total Stocks Gas Oil & Distillates Week Ended Nov. 22	Total Stocks Gas Oil & Distillates Week Ended Nov. 15	Total Stocks Residual Fuel Oil Week Ended Nov. 22	Total Stocks Residual Fuel Oil Week Ended Nov. 15
East Coast	640	649	95.1	96.4	1,880	1,938	19,225	19,013	22,216	22,375	11,331	11,523
Appalachian	125	122	89.9	87.8	458	417	3,468	3,307	652	657	414	381
Ind., Ill., Ky.	650	622	102.4	98.0	2,515	2,493	15,498	15,250	5,686	5,846	4,637	4,713
Okla., Kans., Mo.	302	300	90.7	90.1	1,198	1,181	7,932	7,837	2,090	2,047	2,265	2,335
Inland Texas	135	136	81.3	81.9	660	644	2,434	2,505	463	472	1,364	1,383
Texas Gulf	1,020	1,004	102.1	100.5	3,203	3,281	11,174	11,059	6,407	6,470	8,081	8,519
La. Gulf	133	160	89.9	114.3	403	482	2,726	2,610	1,669	1,741	2,248	2,171
N. La., Ark.	51	39	108.5	83.0	151	124	447	425	364	399	385	399
Rocky Mt.	49	49	72.1	72.1	256	236	1,095	1,026	142	144	353	279
California	514	557	71.9	77.9	1,476	1,601	15,255	15,055	13,107	13,232	63,054	63,040
Reported	3,619	3,638	92.3	92.9	12,200	12,397	79,254	78,087	52,796	53,383	94,732	94,743
Estimated Unreported	376	372			1,355	1,375	5,325	5,325	1,600	1,600	1,250	1,250
U. S. Total*	3,995	4,010			13,555	13,772	84,579	83,412	54,396	54,983	95,982	95,993
U. S. Total 11-22-40*	3,512				11,619		79,417		47,348		105,358	

Stocks Aviation Gasoline Included in Finished & Unfinished Gasoline Total Week Ended Nov. 22	Nov. 15
East Coast	
713	674
Interior	
1,460	1,468
Gulf Coast	
2,760	2,365
California	
2,183	2,105
7,116	6,912
400	395
7,516	7,307
6,287	

*Estimated, U. S. Bureau of Mines basis.



THE Editor's PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and publisher, Penton Building, Cleveland, O.

Price Authority Continues Secrecy;

Oil Men Should Organize

THE ENTIRE oil industry is now the victim of a perfect example of government "bureaucracy" at its worst in the "take it and like it" attitude of OPA.

That New Deal bureau more than two weeks ago, without notice to the industry and without any consultation with it, arbitrarily froze all oil prices from the well to the consumer.

And though protests have been sent to this bureau by oil men and oil associations, OPA continues its silence, offering no explanation and no justification for its act whatsoever.

It would seem that Hitler, Mussolini and Stalin have all come to America.

If the policy of these foreign dictators is being followed by OPA then, of course, the oil industry is not entitled even to any reasons for the drastic "request" of OPA. But if this country is still operating on sound American principles of government then the oil industry is entitled at once to full information, all the facts and figures, on which OPA bases this action. Also OPA might elucidate the "law" under which it issues its "request" and further explain why it thinks that ALL men in the oil industry are bound by it, when personal notice was sent to only some 160 oil men and companies.

THERE is nothing sacred, at least in this country yet, about a bureaucracy. They certainly are anything but infallible, in the first place, as we have just seen in the late gasoline and oil "shortage" episode and they do not sit in any "holy of holies" into which the common people may not enter. Oil men are entirely in their rights to demand, just as loudly and peremptorily as is necessary, for the facts from this bureaucracy, OPA. If oil men's requests are disregarded they would be well justified in getting a Congressional Committee to pry into OPA's secrecy.

If oil prices were sky-rocketing above all previous levels, OPA might plead some justification for the arbitrariness of its action—but not for its silence. But oil prices have not sky-rocketed to any such level. Even with higher operating costs, petroleum prices are just getting back to some previous not-too-high levels.

The oil industry has a right to demand how any such advances as have obtained in oil to date can have any relation to the much-feared "inflation" to which OPA is supposed to confine its efforts? Especially in the face of the administration's frank efforts to get wages up still higher and to let labor unions hold up the country under continued strikes for still higher wages and shorter hours?

OIL is entitled to know, not only what facts and figures this dictatorial ukase was based on, but furthermore oil men are entitled to know just exactly who made the decision and just who participated in it? What are their qualifications for such an important decision?

There is another bureau at Washington which is supposed to represent the oil industry in all matters pertaining to this administration—the Petroleum Coordinator and his office. What is this bureau doing about this action of OPA? What representations, if any, has OPC made to OPA? Again the oil industry is entitled to know.

It begins to look, as NPN has feared from the start, that the oil industry will have to look to its own efforts to protect itself. It is fine to have a government bureau like OPC to work WITH the industry and other government agencies but it is more apparent than ever that the oil industry should not leave its fate entirely and unquestioningly in the hands of OPC or any other government organization.

Last week NPN suggested the desirability of the industry's organizing an over-all committee which might be called "The Council of Oil Industry Associations for National Defense". This Council would include all associations of oil and equipment that have to do with oil.

Its aim would be to get the industry so organized that it can do a better job of protecting itself against unfair government encroachments than at present.

Its aim also would be to take charge of and head up things that the industry should be doing in this war emergency, such as carrying on a campaign within itself of conservation of all types of oil equipment, and then carrying on a campaign with consumers for conservation in use of all petroleum products. It is a considerable possibility that, if we are to supply all the war munitions for the Democratic world, we may have to be a bit saving of our petroleum. It would be far better that the oil industry itself be developing such a conservation campaign than wait and leave it to government bureaucrats who might be more interested in registering their control over the oil industry than in actually saving the oil.

THERE are some fine men in Washington with the best interests of the country at heart. But there are also a lot of fine men in oil and its allied industries, who are just as patriotic as any at Washington and above all who, as a class, know more about their business and the industry. These fine oil men out in the industry can best serve their country by not abdicating all control of their business, by not giving up their rights to approach any government agency they deem necessary and by not giving up their right to challenge any and all government propositions that seem unjust, illegal, or just plain "screwy".

And above all, these fine oil men are entitled to know AT ALL TIMES just exactly what is going on in Washington about their business. They should not be made to wait until bureaus have finally decided their fate. These oil men are entitled as American citizens to know what measures are not only being talked of but what are even being thought of.

At the moment the industry has not been able to pierce the great secrecy at OPA nor does it know what, if anything, OPC is trying to do about the acts of its associated government bureau.

It is high time the entire oil industry organize to protect itself.

"Keep Premium 'Gas' on Hand" May be 'Order' to Marketers

NPN News Bureau

WASHINGTON, Nov. 21.—Within the next few weeks, all oil marketers may be "ordered" to keep a certain percentage of their premium gasoline stocks "on call" for possible Army use, a well-informed defense official told NPN today.

Possibility of this "order" going through was given "more than a 50% chance" by this official who later stressed fact that this is a plan still in its formative stages and that probably more details would be available after Nov. 25 meeting here between Office of Petroleum Co-ordinator, marketing committee chairmen and refining subcommittee chairmen. OPC had no comment.

Whether same amount of premium gasoline will be available during coming year as was on market during past year is still in the "guessing stage," NPN was told. Possibility of curtailment is seen in Ethyl Gasoline Corp.'s announcement (*NPN Nov.* 19, *p.* 5) to allocate tetraethyl lead supplies.

No Octane Change

Possibility that octane number of premium gasoline will be lowered was given little chance by this defense official who pointed out that some types of Army equipment need a gasoline of 80 octane (ASTM) minimum. Unofficially, OPC have given assurance that a drop in octane number on premium would not be considered, NPN was told. A short time ago, reports were circulating here that a lower octane number on this grade gasoline was a possibility.

Apparently OPC would also have to work out whether all marketers, or just some marketers in all areas, would be "ordered" to keep a certain percentage of premium on hand at all times. When asked about this, one source said it would be up to OPC.

However, more than even chances are given here in several sources that octane number on regular gasoline will be dropped to around 70 (ASTM), as a measure to conserve tetraethyl lead.

Navy Makes Awards On Lease-Lend Bids

NPN News Bureau

WASHINGTON, Nov. 21—U. S. Navy Department announced bids opening Dec. 2 on 30,000 gal., lubricating oil for caterpillar engines, SAE 20, under Schedule LL-9532. Delivery is to be in packages, f.a.s. New York or Philadelphia during December.

Schedule LL-9540, opening Dec. 2, is for 4500 bbls. lubricating oil, delivered in bulk, f.o.b. East Coast during December.

Awards on Schedule 8912 went to Pioneer Division, Flintkote Co., Los Angeles, for 150 tons petroleum-residuum at $23.95 per ton. Total: $3592.50, delivery within 90 days, Mare Island, Calif.

Schedule LL-9343, to California Standard on 50,000 gal. diesel engine lubricating oil at $0.4121 per gal. Total: $20,605, delivery f.a.s. New York or Philadelphia during November.

Schedule LL-9457, to United Refining, 300 long tons "special" mineral lubricating oil at $124.70 per ton. Total: $37,410, delivery f.a.s. New York or Philadelphia during November, December and January. Under same schedule invitations for 720 long tons of ordinary mineral oil were dropped.

Department also announced cancellation of Schedule LL-900-6808 for 200,000 bbls. Lagunillas asphaltic crude.

OPC Seeks Co-operation On 100-Octane Bids

NPN News Bureau

WASHINGTON, Nov. 22.—Oil companies bidding on Navy Department's Schedule LL-9446 (*NPN, Nov.* 12), which calls for 3,058,000 bbls. of 100-octane gasoline, have been urged by Office of Petroleum Co-ordinator to submit bids on 80% of their present stocks plus 80% of what they will produce between now and April, 1942, a defense official told NPN today.

Oil Lab Equipment Makers Get A-5 Priority Rating

NPN News Bureau

WASHINGTON, Nov. 22.—Research laboratories maintained by the oil industry may find it easier to obtain necessary chemicals and equipment as a result of an A-5 preference rating assigned last week to acquisition of scarce materials required by manufacturers of necessary chemicals and equipment.

East's 'Gas' Stocks Above 1940's

NPN News Bureau

WASHINGTON, Nov. 21.—East coast gasoline inventories for the week ending Nov. 15 show a decline of 321,000 bbls. compared with the previous week, but are up 865,000 bbls. over the same week of last year, Office of Petroleum Co-ordinator reported today.

Following table compares current East Coast stocks with those of last year:

	(Thousands of bbls.) Nov. 16, 1940	Nov. 15, 1941	Difference
Crude oil	13,531	12,694	— 837
Gasoline	18,148	19,013	+ 865
Light heating oils	17,452	22,375	+4,923
Heavy fuel oil	12,114	11,523	— 591
Totals	61,245	65,605	+4,360

OPA Gives Methods To Save Antifreeze

WASHINGTON, Nov. 22.—Tips to automobile owners on how to use anti-freeze with minimum waste have been suggested by automobile and chemical experts on the staff of the Consumer Division of the Office of Price Administration. Following is a list of these suggestions as reported in "Defense", weekly bulletin of the Office for Emergency Management.

1. Check fan and pump belts. The belts should be tight enough so that you cannot turn the fan with your finger without moving the belt. Excessively worn belts should be replaced.

2. Clean out rust scales from inside the radiator and motor block which cause the engine to overheat, flush cooling system before adding antifreeze. Plain washing soda or other inexpensive flush is suitable. If you haven't flushed your cooling system for several seasons, the radiator and engine should be flushed separately by disconnecting the hose that joins the radiator with the motor. The same is true if you use "hard" water in the radiator, or if the drained water seems to be very rusty. To be sure that flushing mixtures are throughly drained, flush clean water through radiator and draincocks on the motor block.

3. After flushing the cooling system, check it for leaks. Lifeless, overaged hose connections which may easily develop leaks should be replaced, and leaky water pumps should be repaired, or replaced if necessary. Check the water pump particularly carefully, for the grease around it often hides leaks.

4. Check the level of the water in your radiator frequently after adding antifreeze, and periodically thereafter. The level should always be above upper hose connection to allow circulation from the radiator to the motor. Filling the radiator above the neck means you are using more antifreeze than necessary.

5. Watch engine heat-indicator for signs of overheating. If your engine overheats, find out why and have it fixed. Always check the strength of the antifreeze after overheating.

6. Use adjustable type of radiator cover, so it can be opened and closed as the weather dictates. Completely closing up your radiator front causes engine overheating.

7. Avoid idling the engine for long periods. Since the cooling system is designed to operate efficiently while the car is in motion, idling the engine for a long period is apt to cause overheating—and also wastes gas.

8. Put the cooling system in order before cold weather catches up on you over night. Then antifreeze can be added at a moment's notice. Don't put in antifreeze until you need it. And don't use more than you need.

Gulf Plans Expansion

HOUSTON, Nov. 24.—Expansion of aviation gasoline refinery capacity at its Port Arthur, Tex., refinery, is planned by Gulf Refining Co., according to reports here. Project expected to cost over $200,000 with equipment.

Final Destination—Not Point of Sale, Determines Wage-Hour Law Application

NPN News Bureau

WASHINGTON, Nov. 22.—"The employer who either knows or has reason to believe the goods he produces will move in interstate commerce must comply with the provisions of the Fair Labor Standards Act in the production of such goods even though the goods are all sold by the producer within the state of production."

This statement was made this week by Wage and Hour Division in reviewing a decision of the United States District Court at Grand Rapids, Mich., which granted the Wage-Hour Division an injunction enjoining the Rex Oil and Gas Co. of Muskegon, Mich., from violations of the Wage-Hour Law.

Wage and Hour Division quoted Judge Fred M. Raymond as concluding:

"Notwithstanding the fact that defendant sold within the State of Michigan all of the oil which it produced, its employees were, during the period in question, engaged in the production of goods for interstate commerce within the meaning of the Fair Labor Standards Act because at the time said oil was produced defendant knew or had reason to believe that substantial proportion of said oil and the products refined therefrom would move in interstate commerce."

Brazell Named to District Refining Committee

NPN News Bureau

WASHINGTON, Nov. 24.—Reid Brazell, Alma, Mich., vice-president of Leonard Refineries, Inc., was appointed a member of District 2's refining committee, Office of Petroleum Co-ordinator announced today.

December Quotas Boosted in Texas

Special to NPN

AUSTIN, Nov. 24.—The Texas Railroad Commission's proration order for December granted only slightly higher production, bringing disappointment to the operators who had gone on record at the statewide hearing for a daily increase up to 150,000 bbls.

The Commission fixed the production at 1,555,192 bbls. daily, about 14,000 bbls. over the average production last week. Subtracting 3.5% for normal underproduction, the daily average will be 21,060 bbls. daily over the Bureau of Mines estimate of 1,479,700.

Chairman Ernest O. Thompson, who had plugged for higher production to build up reserves, signed the order, stating that since there was a rise in production that it was a step in the right direction.

He said the higher production will aid refineries but that if the figure didn't meet their needs they could request a special hearing.

Wait on OPC

"We'll hold the line," he said, "until the federal co-ordinator indicates his policy."

Deputy Co-ordinator Davies assured Mr. Thompson from Washington last week that the federal administration wants to increase stocks as a defense weapon, but is working on a plan to do so in an "orderly manner" and asked that states make no rash moves to open up their oil wells until a complete plan is formulated.

* * *

Louisiana Quota Boosted

Special to NPN

BATON ROUGE, Nov. 25.—Louisiana's December oil allowable of 354,705 bbls. daily is 7647 bbls. above November order and 14,705 bbls. above the Bureau of Mines' demand forecast.

Of total, 281,966 bbls. goes to south Louisiana fields; 72,739 bbls. to northern fields.

* * *

Kansas Allowable Hits Highest in History

NPN News Bureau

TULSA, Nov. 24 — Kansas Corporation Commission last week announced the largest allowable production in the state's history. The 264,000-bbl. figure for December is 7000 bbls. above the November order and 3300 bbls. above the Bureau of Mines' demand forecast. Kansas producers indicated demand for 274,000 bbls. daily during December.

From T. A. Morgan, commission's conservation director, came reports of "alarming" crude stock withdrawals that totaled 2,200,000 bbls. since March 3.

"Kansas crude oil storage supplies reached the lowest level in 7 years the week ended Nov. 8," he said, adding that "present price of crude oil cannot maintain present proven reserves of petroleum in Kansas and elsewhere."

He suggested a 25 to 30c a bbl. price advance.

Report on New Producers Not Encouraging

Special to NPN

AUSTIN, Nov. 22, — Despite federal government demands for discovery of more oil reserves, Texas operators haven't had any thumping amount of success this year on new producers, according to figures compiled by the Texas Railroad Commission.

During the first 10 months of this year, drillers located 846 wildcats, but only 130 of these were brought in as producers. Twenty-six were gas producers and the remainder blanks. According to these figures, the percentage of dry holes was 82, slightly more than 4 out of every 5 drilled.

Added to these figures are the ones for wells plugged, former producers that have played out or wells that came in dry. In 1939 there were 2846 plugged compared to 3152 for the first 10 months in this year alone.

Travelled 25,000 Miles by Bomber To Survey World Oil Problems . . .

NPN News Bureau

WASHINGTON, Nov. 24.—"Around the World in a U. S. bomber" might be the title of a story if Earl Petty, Chicago, District 2's refining director, decided to write about his 25,000-mile airplane trip as a member of the Harriman Mission which was sent to London and Moscow by President Roosevelt.

Mr. Petty's return to the U. S. is so recent that he's "just getting used to American customs", he says jokingly.

In addition to London and Moscow, Mr. Petty visited Bagdad, Karachi (India), Calcutta, Rangoon, Singapore, Darwin (Australia), Fort Moresby (New Guinea), Wake Island and Honolulu.

Prime Minister Churchill, Lord Beaverbrook and Joseph Stalin are now numbered among Mr. Petty's acquaintances. There were many others and this world-traveler has anecdotes about each. Oil men meeting Mr. Petty should ask to see a large collection of photographs ranging from dusky Burmese maidens to Stalin's advisers.

With amusement, Mr. Petty recalls "two Saturdays in the same week". It happened when crossing the international dateline. Leaving Wake Island at 8:30 p.m. one Saturday, the bomber arrived at Honolulu at 7:30 a.m., the same day—"13 hours before we left", says Mr. Petty.

Oil fields over which this "internationalist" flew included the Baku area in the Caucasus, Iraq, Persia and Burma as well as California, Texas and the Mid-Continent in the U. S.

For a few more weeks, Mr. Petty will continue working on Russian problems in the Office of Petroleum Co-ordinator, pending transfer back to Chicago and his former job as refining director of District 2.

"We flew into Russia via Archangel and then down to Moscow where we conferred with Stalin and Russian officials," explains Earl Petty, right, to Gordon T. Granger, District 3's refining director. What did he find?—"It's still a military secret," he says. To the right is Stalin's picture, a gift brought back from the Kremlin

OPC Gets Personal Plea For Texas Crude Advance

(*Continued from page* 5)

constantly made and reserves replenished.

Group told Mr. Ickes removal of price differentials in crude wherever they exist, along with bringing crude prices to parity, would accomplish these two results. Group reported Mr. Ickes "gave us encouragement."

O'Daniel Sees Henderson

Meanwhile, Sen. O'Daniel, Dem., Tex., conferred with Price Administrator Henderson alone, presumably on the proposed 35-50c per bbl. crude advance.

Leading up to the conference was a series of communications between Sen. O'Daniel, and various Government officials urging higher price. He used the argument that the independent operators and farmers receiving oil royalties are those who need the higher prices.

He argued further that, because Texas has "willingly and graciously penalized herself" by enacting sound proration laws, his state is entitled to enjoy a fair share of the expanded oil market, and receive a price high enough to enable producers to break even.

Wires OPC, OPA

On Nov. 10, Sen. O'Daniel sent this telegram to Petroleum Co-ordinator Harold L. Ickes and Price Administrator Leon Henderson:

"Oil operators and organizations representing farmers, businessmen and oil are urgently requesting an increase of 35 to 50 cents per barrel on Texas crude account of increase in cost of producing. Urge immediate consideration and granting of their request. Please reply promptly."

In reply, he received a letter from Acting Co-ordinator Robert E. Allen, referring him to Mr. Henderson. But in the letter, Mr. Allen assured the senator of "our sympathetic attitude" toward any justified price changes.

O'Daniel Writes Henderson

And then on Nov. 14, Sen. O'Daniel wrote a letter to Mr. Henderson, following up his telegram 4 days earlier.

Enclosed was a resolution adopted by a mass meeting of Independent crude oil producers in Tyler on Oct. 7; a resolution adopted at the annual meeting of the Independent Petroleum Assn. of America in Tulsa, Okla., on Oct. 22; a report by the I.P.A.A. on crude petroleum costs; a letter from Mr. C. V. Lee, president of the Lee Petroleum Corp., San Angelo, dated Nov. 1; a telegram from Mr. Ray Leeman, executive vice-president of the South Texas Chamber of Commerce.

"You will note," Sen. O'Daniel wrote, "these requests come from representatives of Independent operators, farmers who own oil producing land and others who are interested.

"I do not know that the major oil corporations are interested in raising the price of crude oil because they produce it, transport it, refine it, and retail the products.

"They have already increased the retail prices of their products so that they perhaps are now getting the increased price for the crude they produce."

Sees 'Dire Need' for Hike

On the other hand, he continued, Independent producers who do not transport, refine and retail the refined products are in "dire need" of a higher price for their crude.

To keep on exploring new fields and maintain potential reserves at their present level, Texas must have an increase of 35 to 50c per bbl., Mr. O'Daniel declared.

OPC to Survey Retail Marketing Needs For Repair and Maintenance Equipment

NPN News Bureau

WASHINGTON, Nov. 24.—Decision to appoint a National Container Subcommittee to study steel drum substitutions and a National Survey Committee to look into need for provisions to help the retail end of the petroleum industry get necessary repair and maintenance items, highlighted today's meeting of marketing division in Office of Petroleum Co-ordinator with chairmen of the 5 regional marketing committees.

The survey committee would study maintenance and repair situation for 1942, in service stations to determine total amount of equipment now available for use which is not being used.

Committee Membership

This committee's membership would comprise 3 representatives from each of the 5 districts, which would include an oil company equipment expert, a jobber and a pump manufacturer's representative.

The National Container Subcommittee would be tied in with the marketing committees and study metal container and cooperage industry to determine exactly how many barrels and drums are available and what type petroleum products could be transported satisfactorily in wooden barrels.

It is only a matter of time, warned Joseph Taylor, chief OPM consultant on metal containers and former general purchasing agent of Socony-Vacuum, until steel drum manufacturers will be unable to meet all requirements for food, petroleum and chemicals. A canvass of the cooperage industry, he said, revealed that present annual 6,000,000 barrel capacity can be doubled.

Willing to Co-operate

Comparing amounts of steel used in a steel drum and a wooden barrel with steel hoops and staves, Mr. Taylor said it was 55 lbs. against 11 lbs., respectively. It's a case where the petroleum industry just can't get all the steel drums it wants, he said.

B. L. Majewski, Chicago, district 2 marketing chairman, said the oil industry was willing to co-operate but he favored a recommendation from OPC which would have the blessing of Assistant Attorney General Thurman Arnold. Mr. Majewski explained that this would be advantageous in that co-operation probably would involve prices.

A shortage of coopers and increased transportation costs due to leakage in wooden barrels which would create greater danger were among other points brought out at the meeting.

A reduction in smooth surface requirements on steel drums would enable other mills to share in the work, OPC said.

H. Earl Clack, district 4 marketing chairman saw little use for wooden barrels in his area (Montana, Wyoming, Colorado, Utah and Idaho) as they would lie around too long, he said, before being used and this would result in considerable leakage.

Return Gain Cited

Considerable gain in the "returnable package" campaign was reported. Aim of this "campaign" is to have purchasers return steel drums.

In the first 6 months of 1941, petroleum industry took 60% of all steel drums in this country. Counting off-shore shipments, number of steel drums oil industry demands totaled 70%. These figures were supplied by Mr. Taylor.

BULLETINS

(*Continued from page* 5)

vances are not above Nov. 7 levels—but OPA wants to be advised of such changes.

OPA made the price-freezing request pending its study of jobber margins and transportation costs, now being made.

* * *

S.C.O.J.A. HITS 'FREEZE'

COLUMBIA, S. C.—South Carolina Oil Jobbers Assn. Nov. 24 passed a resolution requesting Price Administrator Henderson to rescind his price-fixing "request" of Nov. 7. The resolution will be presented in person by T. Wilbur Thornhill, Charleston, S. C., of Charleston Oil Co., who leaves for Washington some time this week.

* * *

SOME CAN ADVANCE WITHOUT 'NOTICE'

WASHINGTON—Gasoline retailers may advance their prices to Oct. 1 levels, without prior notification to the Office of Price Administration, if for some reason—such as a price war—their prices have been reduced below Oct. 1 levels, an OPA spokesman said today. However, OPA wants to be notified afterwards when such advances have been made.

* * *

THOMPSON RETURNS

AUSTIN—Col. Ernest O. Thompson returned to fulltime Texas Railroad Commission chairmanship at midnight Nov. 24 after receiving release from active duty with Texas National Guard.

* * *

EAST'S STOCKS CLIMB

NEW YORK—East Coast stocks of gasoline, gas oil and distillates and residual fuel oils on Nov. 22 were 6,301,000 bbls. above previous year, according to American Petroleum Institute's report today. Gasoline stocks increased 212,000 bbls. during week ended Nov. 22, standing 1,638,000 bbls. higher than nearest comparable 1940 date.

Used Steel Drum Price 'Ceiling' Set by OPA; Effective December 1

NPN News Bureau

WASHINGTON, Nov. 24.—Moving to prevent "excessive and unwarranted" price increases in petroleum, chemical and food industries, Price Administrator Henderson today placed a "ceiling" on prices charged for second-hand steel drums.

The ceiling is effective Dec. 1. Maximum price is $2.25 for reconditioned, 18-gauge, 50-55 gal. steel drums, delivered within a radius of 50 miles from reconditioning plant.

For each 75 miles or fraction thereof in excess of the 50 mile radius, sellers may add all actual transportation charges, or 10c a bbl., whichever is less. Buyers in California, Washington and Oregon may have to pay 50c more, because of a prevailing custom in pricing steel drums out there.

May Advance 25c

Maximum price may be boosted an additional 25c, however, if the reconditioned drum is lacquer-relined and baked.

For "raw" drums—those not reconditioned—a top price of $1.60 was set, applying to 18-gauge drums holding from 50 to 55 gals. In the West, this price may be raised to $2 per barrel.

If a man buys a second-hand standard drum of the same specifications directly from the person who empties that drum he is not to pay more than $1.25, f.o.b. the "emptying point". But on the West Coast, the price in this instance may be as much as $1.65.

80% of Delivery Price

To cover the multitudinous range of steel drums other than the sizes referred to above, the maximum delivered price for reconditioned drums of the other sizes shall be 80% of the delivered price—as quoted by the Rheem Manufacturing Co. or the Wheeling Corrugating Co.—of new, black, hot-rolled steel barrels or drums of the same type and size, when delivered in carload lots.

As in other formal price actions, Mr. Henderson stipulated that every person buying or selling used steel barrels or drums after Dec. 1 shall keep a complete record for inspection by Office of Price Administration.

Records To Be Complete

These records are to include each purchase or sale, the date, name of buyer or seller, price paid or received, and the quantity of each grade involved, quantity of used steel barrels or drums on hand and on order at the close of each month.

Mr. Henderson pointed out that the need for maximum prices was established after numerous conferences with representatives of the industry.

"To prevent excessive and unwarranted price increases in the petroleum, chemical, and food industries, the establishment of ceiling prices for used steel barrels is absolutely essential," he said in the preamble of the price schedule. "The present spiraling of such prices, unless controlled effectively, is certain to have an adverse effect on the national defense and the public welfare completely out of proportion to the intrinsic value of the used barrels or drums."

Cites Former Prices

In a statement accompanying the price schedule, Mr. Henderson said reconditioned standard steel drums of 55-gal. capacity have brought from $3.50 to $4.50 on eastern markets, in contrast with a price of $2.72 for new containers.

"In the case of certain cheaper grades of petroleum products," he continued, "the cost of the container has become greater than the value of the product it contains."

Mexican Proposal Meets Disapproval Of Oil Companies

NPN News Bureau

NEW YORK, Nov. 24.—Final settlement of the Mexican oil properties question, which has had some ups and downs since early 1938 when Mexico expropriated holdings of foreign oil companies within the country, got another set-back last week when U. S. oil companies turned thumbs down on a proposed agreement worked out between the State Department and the Mexican government.

Acting as spokesman for the oil companies, W. S. Farish, president of New Jersey Standard, labeled the agreement as "vague" and, citing two recent letters from the companies to Secretary Hull, gave the following as reasons for rejecting the proposal:

Explains Action

"1. It purports to validate the original confiscation, which violates international law, and thereby jeopardizes all foreign investments.

"2. It promises payment over a period of 11 years from the time of expropriation by a government which already is now hopelessly in default on its foreign debts, and thereby repudiates the principles enunciated by the United States government that a valid expropriation is conditioned on the payment of 'adequate, effective and prompt' compensation.

"3. Aside from these fundamental principles, the agreement itself is so vague and ambiguous as to seem to the companies dangerous; and it binds the companies to accept a speculative promise in exchange for their tangible properties."

Iowa Jobber Group Hits Lube Oil Hike In Letter to OPA

NPN News Bureau

CLEVELAND, Nov. 25.—Complaint that Socony-Vacuum Oil Co.'s White Eagle Division advanced its lubricating oil prices to jobbers by 8c per gal., effective Nov. 15, has been sent to Office of Price Administration by Iowa Independent Oil Jobbers Assn., according to copy of complaint forwarded to NPN.

Some Cleveland dealers handling Socony-Vacuum products advanced their lubricating oil prices 12c per gal. to the consumer. Some of these dealers said they had never even heard of OPA's "freezing" of all petroleum product prices at Oct. 1 levels, much less obtained "permission" from the price control agency before advancing their prices.

Socony officials declined to comment for publication on the advance.

Text of the Iowa jobbers' complaint to Leon Henderson, OPA chief as forwarded to NPN by A. C. Glenapp, Manchester, Ia., the state association secretary, follows:

November 19, 1941

Mr. Leon Henderson,
Office of Price Administration,
Washington, D. C.

Dear Sir:

Numerous complaints have reached our office from oil jobbers throughout the state that the Socony-Vacuum Oil Company, White Eagle Division, have raised their lubricating oil prices approximately eight (8) cents per gallon effective November 15th, 1941, which is contrary to your request to the Petroleum industry as of November 7th—quote—"To make no price advances in all petroleum products without prior notice and approval by OPA. Price increases must be submitted for approval include contract or spot prices of petroleum and all petroleum products, including refinery, tank car, tank wagon, barge, retail service station and other prices quoted by the individual companies."

If the refiner is permitted to raise his price to the oil distributor and the oil distributor is prohibited to pass on this increase, how in the world can he stay in the picture? Kindly advise with utmost dispatch, and oblige.

Very truly yours,
IOWA IND. OIL JOBBERS' ASSN.
By A. C. Glenapp, Secretary

Congress Asked to Approve Permanent 'Hot Oil' Law

NPN News Bureau

WASHINGTON, Nov. 25—A bill to make the Connally Hot Oil Act permanent was introduced yesterday by Sen. Connally, Dem., Tex. Connally has introduced the bill several times in the past, but each time it was renewed for only two years.

Bill was referred to Interstate Commerce Committee, instead of Mines and Mining Committee to which it is usually sent.

Answers FTC Complaint

NPN News Bureau

CHICAGO, Nov. 24—Charged with alleged unfair practices in the sale of motor oils and greases in a complaint issued by the Federal Trade Commission, Associated Motor Oils, Inc., 2313 South La Salle St., here, has replied to FTC's complaint, denying the charges and asking that the complaint be dismissed. Complaint is Docket No. 4621. Hearing will be held Dec. 5.

WASHINGTON . . . Orders and Recommendations

Office of Price Administration issues two orders affecting the oil industry, as follows:

Ceiling on prices for paraffin wax, effective Dec. 1.

Ceiling on prices for used steel drums, effective Dec. 1.

* * *

Civilian Supply Director Henderson announces that passenger automobile production in February will be cut 56.1% below output of last February.

LETTERS FROM NPN'S READERS

By Telegraph

EDITOR, NPN:

YOUR EDITORIAL OF THE NINETEENTH IS A MASTERPIECE OF SOUND LOGIC AND COMMON SENSE AND MAY GOD GIVE YOU STRENGTH TO KEEP UP THE GOOD FIGHT.

SAM LANE,
CEDARHURST, N. Y.

* * *

Editor, NPN:

Your editorial in the issue of November 19th is most timely, and I am particularly interested in the section headed "Oil Needs Its Own Central Agency, Separate From Government."

Early in the summer, as reported in your column, oil associations of the Atlantic Coast formed the Atlantic Coast Oil Associations Conference and have been holding meetings since that time. The associations represented send two delegates to each meeting.

I mention this because a start has been made along the line of your suggestion, on the Atlantic Seaboard.

I feel that a council of oil industry associations for national defense is very much in order, but in my opinion, the independent organizations should form such a council, and there should be a liaison committee operating between the independent group and the American Petroleum Institute.

The government is certain to look with suspicion upon any organization that combines all of the oil men into a gigantic political force that will actively assert itself in Washington to better its economic position.

I also feel that some legal difficulties might be avoided, and the aims and policies of the operators might be best promoted by an over-all council, or perhaps a better word would be federation.

Oil, as you say, is a highly articulate industry—but unless it is able to produce political punch, its efforts, no matter how articulate, will be futile.

Very truly yours
(S) Clyde G. Morrill
Boston, Mass.

* * *

Editor, NPN:

Early last spring, the President of these United States, said in part, "We need pipelines to transport petroleum from the Southwest to our East Coast."

He did not say tank cars, cream cans or trucks.

However, our true Americans got busy, and plans for construction were completed, when the Senate group investigating committee arrived at the conclusion there was no East Coast shortage, and on top of this, the priority group claim they could not permit steel to be used for the construction of this line, or words to that effect.

Even though every clear thinking American knows that a surplus of petroleum and its by products on the East Coast is our big gun, said priority group do not seem to realize its importance.

It looks to me like national defense for England, not us. Had this line been rushed through, after the whole thing is over, we would at least have a petroleum trunk line from the Southwest to supply our rapidly growing northwestern market.

We have petroleum trunk lines from the Southwest to the East. These lines were threaded pipe, and have been in service from 20 to 40 years, and are now pit holed, rusted, and some joints on the bottom are as thin as stove pipe. I know this for I have taken up miles of this 6 and 8 in. pipe.

For an engineer to give a diesel engine the gun on such a line means leaks and plenty of them.

Some time ago, I heard a voice on the air announcing the movement of 1000 trucks, evidently an army movement.

How much gasoline per mile will one thousand trucks use?

How many more thousand trucks would move in case we found it necessary to protect all coasts?

How many more civilian trucks and cars will start moving in case of war?

How many diesel engines now almost inactive will start movement in case of war, and how many thousand diesel engines are now being sold per year, how many more trucks and cars, that are not replacements?

This is not 1917. We must have petroleum where we need it, and tank cars, railroad wrecks and strikes, will not put it there.

A tank car alongside a refinery reminds me of a bucket of coal along side of your furnace, with the coal yard a thousand miles away.

More than 60 years ago John D. Rockefeller decided that pipelines were the answer to petroleum transportation.

The Senate oil investigating group seem to think John D. was wrong—and that the East Coast can be supplied by tank cars.

Why not shut down the water works in Washington, D. C., and make deliveries of water by cream cans, if they do not believe in fluid transportation by pipelines? There must be four million cream cans in Baltimore, Md., not in use. Demonstration gets the answer.

"Nation's Big Gun Plugged"

It looks very much to me as though every national defense necessity created by our President has been blocked—

Like a bunch of buzzards, they wait for every word he utters, to tear it apart, and one way or another they plugged the biggest gun we've got. The same gun or smaller one that Hitler killed thousands of Russians to get hold of.

Yours very truly,
(S) William J. Conley

DON'T run your business on rumors!

- Obviously, you will answer, "I don't".
- But, an examination of your plans may discover for you many important decisions have been made on what was little more than rumor—call it a fortunate "guess" based on rumor.
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- The pages of OILGRAM News Service make available to every oil man the significant oil news of the day . . . gathered from the far corners . . . on your desk THE FIRST THING in the morning. On-the-spot OILGRAM news men throughout the country are your insurance that you will get the oil news while it IS news! They are "there"—seeing and hearing the news as it breaks. For fast, accurate, and complete oil news . . . depend on OILGRAM.
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WITH THE ASSOCIATIONS

A.A.A. Hits 'Use' Tax On Automobiles

NPN News Bureau

WASHINGTON, Nov. 24. — American Automobile Assn. doesn't like the Federal "use" tax of $5 a car, and wants it repealed immediately.

A.A.A. President Thomas P. Henry said in a statement last week that club members feel "we should not be called upon to submit to a tax as unfair, inequitable, unscientific, and unjustifiable as this so-called 'use' tax."

He said a resolution, adopted at the recent A.A.A. convention in White Sulphur Springs, W. Va., is being distributed immediately to "those responsible for federal taxation policies".

* * *

Mid-Continent Taxation Committees To Meet in Fort Worth December 4-6

Special to NPN

FORT WORTH, Tex., Nov. 24.—Federal, state and local taxes, administrative rulings, court decisions and new regulations will all come up for discussion and interpretation at the seventh annual meeting of the standing tax committees of the Mid-Continent Oil & Gas Assn. here, Dec. 4-6.

The joint general session will be opened by J. C. Hunter of Abilene, Tex., president of the General Mid-Continent Oil & Gas Assn.

Among prominent industry executives to speak at this session will be Gerald Gordon of Topeka, Kans., secretary of the Associated Industries of Kansas.

To Discuss Profits Tax

A symposium on federal excess profits tax will feature session of the standing committee on federal income and excise taxation, according to Chairman H. F. See of Dallas, Atlantic Refining Co. Another symposium on the proposed internal revenue administrative code is scheduled for the last day's session.

Ad valorem and excise taxation are the main topics up for discussion by the association's standing committee on state and local taxation. Of interest at these sessions will be the addresses of state tax officials on the administration of state taxes as they apply to the oil industry. John Hammermann, Jr., of Houston, Gulf Oil Corp., is chairman of this group.

* * *

Texas Tax Collections Exceed Expectations

Special to NPN

AUSTIN, Nov. 24—Collections on oil and gas taxes under the state's new omnibus tax law are exceeding expectations, State Comptroller George Sheppard has estimated.

In the first 5 months of the bill's operation, he estimated, oil production taxes yielded $9,000,000. Bill's authors had expected only $8,536,000. This gives oil production taxes a 12-month expectancy of $24,000,000 annually, he said.

The state's four-cent gasoline tax is due to cost motorists $51,387,096 this year, the biggest source of income the state has.

Accountants Postpone November Meeting

NPN News Bureau

TULSA, Nov. 24.—The November meeting of the Petroleum Accountants Society of Oklahoma has been postponed to Dec. 4 due to inability of its featured speaker, Congressman Wesley E. Disney, to attend.

In addition to Congressman Disney's speech, Ross T. Warner, Tulsa accountant, will present some of the "Highlights of the Revenue Act of 1941."

Roy Parr, comptroller of Phillips Petroleum Co., will give a brief report on the activities of the American Petroleum Institute's accounting committees.

New Jersey Oil Group To Elect Officers

Special to NPN

NEWARK, N. J., Nov. 24. — Fifteenth annual election of officers, banquet and floor show of the New Jersey Oil Trade Assn. will be held at Robert Treat Hotel here on Thursday, Dec. 11, at 6:30 p.m., according to Joseph H. Gunn, secretary.

The N.J.O.T.A. nominating committee announces the following candidates to be submitted for election:

For president, Auguste L. Saltzman, Jersey Standard; for vice-president, Frank P. Gill, Adam Cook's Sons, Inc.; for treasurer, William Ulrich, American Oil and Supply Co.; for secretary, Joseph H. Gunn; for national counsellor, Lawrence A. Ryan, Fiske Bros. Refining Co.; for directors: Frank G. Campbell, Sun; John E. Jones, Sun; Alfred R. Lange, Sulflo Inc.; Frank J. Mahoney, Renick & Mahoney, Inc.; Milton Maybaum, National Oil and Supply Co.; James E. Sheehan, Fiske Brothers Refining Co.; Albert E. Lee, Jersey Standard; Robert W. Valter, Tide Water; Ben C. Price, Swan-Finch Oil Corp.; and Harry E. Hellmund, Hellmund Oil Co.

Set Convention Date For W. P. R. A.

NPN News Bureau

TULSA, Nov. 24.—New Orleans has been chosen as convention city for the 30th annual meeting of Western Petroleum Refiners Assn. March 23, 24 and 25, 1942, is the scheduled date.

Plans for the general and technical sessions are being made and more details will be announced later, according to Secretary John C. Day.

Retail Priorities Urged by Two More Oil Jobber Groups

NPN News Bureau

CLEVELAND, Nov. 22—Two more state oil jobber associations raised their voices this week in pleas for priorities assistance for retail oil marketing.

The Indiana Independent Petroleum Assn., in a resolution adopted Nov. 18 urges that the Office of Petroleum Co-ordinator and Office of Production Management "review the importance of the marketing division of the petroleum industry, its relation to transportation and defense, and grant a priority number so that it will be in a position to maintain its efficiency by keeping equipment operating on a basis to meet the demands of the defense program."

Oil's Importance Cited

I.I.P.A.'s resolution points out that OPM has granted priorities assistance for the manufacture of pool tables; that motor transportation is entirely dependent upon oil marketing for fuels and lubricants and that workmen in practically all defense projects are traveling to and from work on these projects in automobiles.

"It is a misnomer for either the Co-ordinator or the Office of Production Management to classify the marketing division of the petroleum industry as non-essential," the resolution asserts. Unless priorities assistance is given to retail oil marketing, the resolution adds, "the obsolescence and breakdown of various equipment will seriously affect the service of the marketing division and likewise have an effect upon the defense program of the country."

The other appeal for oil marketing priorities, coming from Roy L. Brecke, executive secretary of the Wisconsin Petroleum Assn., has been sent to Marketing Director John W. Frey of OPC and to Donald Bell of Office of Production Management.

Mr. Brecke's letters to the two defense officials also pointed to the importance of oil marketing equipment in serving the defense needs of the nation.

Jobber and Co-op Groups Attack Rates on Heavy Oil

(*Continued from page* 5)

the petitions themselves do not specifically ask for a return to the old method of figuring heavy oil rates on a basis of 80% of light oil rates, announcement of the action indicates this old basis is satisfactory to complainants.

When the ICC ordered reduced rates effective June 11 on light oils shipped from the Southwest to Mid-West, no mention was made of heavy oil rates. For years now, rails have based heavy oil rates on 80% of light oil rates and it was taken for granted by shippers that this precedent would be followed in the June 11 rate revision. Rails refused, and some shippers were forced to pay higher transportation charges on heavy oils than on light oils. On Nov. 5, rails placed heavy oil shipments on the same rate basis as light oils. It is these rates that the consumer groups label "unreasonable and unlawful".

Weight Basis Protested

The 7.4 lbs. per gal. estimated weight used on heavy oil shipments was prescribed before the advent of tractor fuels, diesel oils, heavy oils, distillate and other similar products, the complaints point out, claiming the estimated weight is excessive and unreasonable and was not intended to apply to these products.

For this reason, the ICC is asked to order that actual weight, or an estimated weight comparable with actual weight, of commodities be prescribed on shipments of these heavy oil products.

The four co-operatives stressed in their complaints that their organizations are owned and controlled by farmers who actually pay the freight. Their source of supply for petroleum has been the Independent refiner of the Mid-Continent area who utilizes rail transportation exclusively, the announcement said.

"Therefore, they are anxious to keep open this supply lane and to keep the rates on some competitive basis with other forms of transportation that they are competing with in their distributing and farming areas."

Say It Hikes Food Price

Increased transportation costs on heavy oils increase the cost of the farmers' food products that must be passed on to the consumer, the petition sets forth, calling attention to the government's efforts to keep consumer prices within reasonable bounds.

Petroleum products marketed by the co-operatives must compete with non-petroleum products produced in the southwest and shipped to the mid-west at lower transportation charges than those existing for petroleum, according to the complaint. Resultant discrimination against shippers and receivers of low grade petroleum products is in violation of the Interstate Commerce Act, it is charged.

Other petitions pointed out that refinery operations are influenced, if not controlled, by the ability of refiners to dispose of low-grade oils.

Unless "reasonable rates" are prescribed for heavy oils, one petition stated, these Independent or interior refiners will be forced to curtail operations or take action that may destroy this supply of the co-operatives.

Others May Complain

Jobbing associations said they were fearful that "discriminatory" rates would eliminate their source of supply coming from refiners in the Mid-Continent.

Number of complainants in the case will be increased materially with the intervention of Petroleum Shippers Assn., representing Independent southwestern refiners who utilize rail transportation and are vitally affected by the rail rate structure. At least 3 more jobber groups, more co-operative associations and the corporation commissions of several states are expected to join in the fight for lower heavy oil rates. Corporation commissions are interested in the case as it may affect their transportation costs on petroleum asphalts and road oils.

Cites Over-All Picture

One part of the announcement took cognizance of the over-all petroleum transportation picture and stated:

"In the emergency in which we are participating today and which will probably increase in intensity, the question of freight rates will be one that will be watched from all angles. Labor is asking for more wages, more concessions. The railroads will unquestionably expect to pass this increase, whatever it may be, on to those who finally pay the freight. All of which adds to the increasing prices, the move toward inflation and to the worries of our government trying to avoid this. Furthermore, these increases have the possibility of creating inequities in transportation charges and badly throwing out of balance the comparable scales with other forms of transportation. Along with these increases, the railroads should be thinking of the days following this period and try to protect the business that has helped to maintain them and that will maintain them afterwards. . . . "

Pipeline Rate Hearing Set for December

WASHINGTON, Nov. 24.—Reduction of pipeline rates and gathering charges by 34 companies will be considered by Interstate Commerce Commission at a hearing set for Dec. 18 at 10 o'clock, ICC announced today.

Hearing will be in response to a "show cause" order sent 34 respondent companies by ICC and will involve a proposal by the Commission to set the tariff in order to net a return to the companies equal to 8% of the property values of the lines.

Texas to Get Two Recycling Plants

NPN News Bureau

TULSA, Nov. 22.—Texas Railroad Commission has approved construction and operation of a recycling plant for the Katy field of Waller County, Tex. The plant will process 200,000,000 cu. ft. of gas daily, with output of some 5000 bbls. of condensate daily. The plant will rival the country's "largest", now in operation at Cotton Valley, La.

Permit to operate the plant was taken out under the name of Humble Oil & Refining Co., but it will be a community project with numerous operators joining in the program of conservation.

Another new recycling plant for Texas was announced this week after the Texas Railroad Commission approved operation of the proposed Geier & Jackson Recycling Co. unit in the Grapeland field, Houston County, Tex.

Shell Plans New Terminal

ST. LOUIS, Nov. 24.—Plans for a new bulk storage and distributing terminal near the Federal Volunteer Ordnance Works, Chattanooga, Tenn., are under way by Shell Oil Co. Project includes pumping station, storage for approximately 1,000,000 gal. of ordinary gasoline and 200,000 gal. of aviation grade gasoline, and loading facilities.

Texas Files Suit For $3,000,000 Against Gulf Oil

Special to NPN

AUSTIN, Nov. 22.—The State of Texas picked out Thanksgiving Day (Nov. 20) to file suit against Gulf Oil Corp. for $3,283,348 in back chain store taxes.

Under the old chain store tax law (amended this year), the state supreme court has held that any company controlled service station that sells anything other than gasoline and oil is a chain store, and subject to the state's chain store tax.

The tax graduates up to $500 per year per store.

The state's suit against Gulf is for taxes which it claims the company never paid for the years 1936 to 1941, inclusive, on its 700-odd service stations scattered over the state. It was filed in the 126th district court in Austin.

Law Was Amended

The last session of the Texas Legislature amended the chain store tax law to exempt service stations whose gross business is 75% petroleum products. This frees most of the stations from the tax. Bill Goldberg, one of the assistant attorneys general assigned to the case, said the Gulf suit is based on the old law before it was amended.

Major oil companies have bitterly contested the state's efforts to pin the chain store tax on their stations, and the Texas suits have been watched closely in other states.

The attorney general's department has instituted three such suits. The first was a test case against Standard, for only $2100. Standard lost the case and paid off, whereupon Humble was sued for $906,000. The district court in Austin upheld the state, and the case is now pending on appeal before the Texas Court of Civil Appeals.

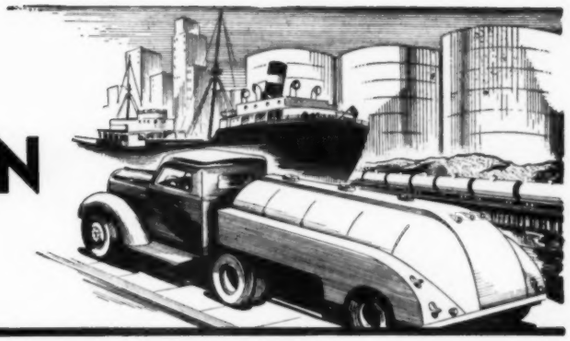
Claims Listed

The lower court that tried the Standard suit said, in effect, that the lawmakers who wrote the chain store tax law apparently meant to exclude filling stations, but what they meant to do and did were two different things. The Texas Supreme Court cinched the case for the state by declining to review the lower court's decision.

The state's attorneys listed the following claims against Gulf:

Year	No. of Stations	Amount of Tax
1936	749	$537,706.50
1937	778	546,969.50
1938	784	561,536.50
1939	782	562,473.00
1940	762	547,463.00
1941	735	527,199.50
		$3,283,348.00

OIL TRANSPORTATION



Ask Rail Rate Cut On Nebraska Crude To Illinois Points

NPN News Bureau

CHICAGO, Nov. 24. — Construction of a new refinery in the Chicago district represents another potential outlet for surplus Nebraska crude, Nebraska producers report. To take advantage of the new outlet, they have asked Western Trunk Line Committee for a 62.16c per bbl. rail rate on Falls City and Verdon, Nebr., crude shipped to Chicago—a cut of 20c.

Proponents of the reduction say owners of the new Chicago refinery are now purchasing Illinois crude as a backlog, but that additional crude supplies from both Nebraska and Mississippi are needed.

Since shippers believe new rate will move the oil to the Chicago refinery, they suggest that same rate be approved to Lemont and Burnham, Ill., and Whiting, Ind. — other refining points in that general refining area.

Ask Topped Crude Rate

Another proposal docketed at request of Nebraska refiners asks the same 62.16c per bbl. rate on topped or reduced crude shipped from Falls City to Chicago, Burnham and Lemont, Ill., and Whiting, Ind., for cracking stock. There is also a surplus of Nebraska cracking stock at present that could be manufactured into gasoline, kerosine and other high grade products at the Chicago district plants, proposal says. The 62.16c rate would apply on shipments in 10,000-gal. tank cars; 71.48c per bbl. on shipments in 8000-gal. cars.

ICC Calendar On Oil Trucking

A. G. BOONE CO., Atlanta, (I & S No. M-1527) Proposed provision for the free return of empty drums and petroleum and petroleum products, old stock, from points in North Carolina to Charleston, S. C., found unlawful. Suspended schedule ordered canceled, without prejudice to filing of a new schedule in conformity with the views expressed herein, and proceeding discontinued.

Maritime Commission Orders 12 Tankers

NPN News Bureau

WASHINGTON, Nov. 24. — Contracts for construction of 12 coastal tankers were awarded to two shipyards last week by the Maritime Commission.

Eight of the vessels will be constructed by Barnes-Duluth Shipbuilding Co., of Duluth, Minn., for delivery between June 1 and Oct. 20 of next year, while four tankers will be built by the Lancaster Iron Works, Lancaster, Pa., for delivery between July 1 and Oct. 1 of next year. Lancaster will fabricate the steel at its Lancaster plant and construct the vessels at its Perryville, Md., shipyard.

Amount of the individual contracts was not announced, but Maritime Commission said the 12 tankers and 4 seagoing tugs—placed under contract at the same time—would cost $11,000,000.

River Shipment Down

Special to NPN

PITTSBURGH, Nov. 22. — Petroleum product movements by barge on rivers in the Pittsburgh district decreased in October to 138,900 short tons (approximately 1,672,300 bbls.), U. S. Engineer Office reported today. September river tonnage of petroleum products was 169,400 short tons.

Court Fines Three For Illegal Rebates

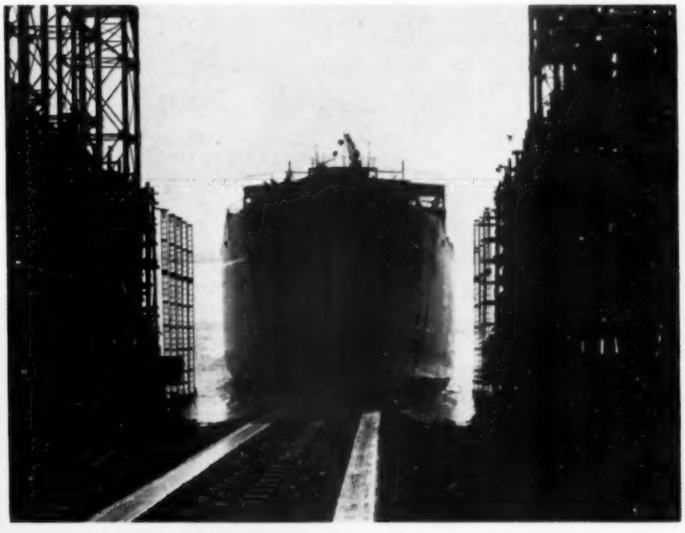
NPN News Bureau

WASHINGTON, Nov. 24 — North American Car Corp., Inland Car Lines, Inc., and Martin J. Grogan were fined recently by the U. S. District Court for the western half of Louisiana, at Shreveport, for rebate violations, according to the Interstate Commerce Commission.

ICC said it was advised that North American, Inland and Mr. Grogan entered pleas of guilty to "information" charging violation of Section 1 of the Elkins Act, and that the court imposed fines of $20,000 against North American, $5000

New 19,200-Ton Atlantic Tanker Launched

The splash of champagne marked the climax in launching ceremonies of Atlantic's new tanker Nov. 15. Mrs. John D. Gill sponsored the vessel which was named in honor of her husband, an Atlantic director



NPN News Bureau

NEW YORK, Nov. 22.—A new 19,200-ton tanker, the "SS. John D. Gill," was launched on Nov. 15 at the Chester, Pa., yards of the Sun Shipbuilding and Dry Dock Co. This is the latest addition to Atlantic Refining Co.'s tanker fleet.

The vessel is 544 ft. long, has a capacity of 6,500,000 gal., and was constructed in the record time of 18 weeks. The ship will carry crude from Texas Gulf ports to Atlantic's Philadelphia refinery.

against Inland and $10,000 against Mr. Grogan.

Charges Told

The "informations" charged, in substance, that North American, a private car company, granted rebates to Hurricane Petroleum Corp., an oil shipper now bankrupt, through payments to the shipper of excess mileage earnings on tank cars leased by the shipper from North American and that Inland likewise granted rebates to Rodessa Oil and Refining Corp., also an oil shipper now bankrupt, through the same device.

Mr. Grogan, as former president of the two shipping concerns, was charged with having solicited and received these rebates from private car companies.

Sinclair Starts Work On Pennsylvania Line

NPN News Bureau

NEW YORK, Nov. 21.—Work on Sinclair Refining Co.'s new products pipeline across Pennsylvania was begun late last week, a company official stated today. When completed, the line will run 360 miles from Sinclair's Marcus Hook refinery to the outskirts of Pittsburgh. A spur of the line will run from Schaefferstown, Pa., to Baltimore, Md.

Sixty-six miles of the line will be composed of 8-in. pipe and the balance of 6-in. pipe.

Phillips to Add Looping On Chicago Pipeline

NPN News Bureau

TULSA, Nov. 24.—Construction of 72 miles of 8-inch looping on Phillips Petroleum Co.'s Borger, Tex., to Chicago gasoline line is expected to begin as soon as pipe deliveries are made. December delivery has been "promised" on pipe.

Looping will be concentrated in the Missouri and Kansas sections of the line.

To Study Carriers

NPN News Bureau

WASHINGTON, Nov. 17.—Appointment of Dr. Burton N. Behling as Director of a study of public aids to carriers was announced today by the Board of Investigation and Research which was established by the Transportation Act of 1940.

Since February, 1939, Dr. Behling has been an economic and statistical analyst with the Bureau of Statistics of the Interstate Commerce Commission.

Although most motorists have incomes of less than $30 a week, the motor vehicle owners in the United States paid out more in gasoline taxes to the state and federal governments than what Uncle Sam collected in individual income taxes in 1940.

Tank Car Movements To East Down—OPC

NPN News Bureau

WASHINGTON, Nov. 21.—Tank car movements of petroleum and petroleum products into east coast states dropped to 3756 cars for the week ending Nov. 15, compared to 3932 the previous week, Office of Petroleum Co-ordinator reported today.

Average daily movements into the territory were 536 cars, carrying 120,600 bbls., compared with 562 carrying 126,450 bbls. the previous week. Two weeks ago, the average was 584 cars a day.

Thirteen companies participated during week ending Nov. 15, as follows: Atlantic, 403 cars; Cities Service, 271; Gulf, 233; Pan-American, 292; Pure, 67; Shell, 281; Sinclair, 459; Socony-Vacuum, 107; Kentucky Standard, 56; Jersey Standard, 1216; Sun, 3; Texaco, 172; Tide Water, 196.

February Allotment Of New Automobiles Cuts Output 56.1%

NPN News Bureau

WASHINGTON, Nov. 22 — Passenger car production in February, 1942, will be cut to 174,122 units. This is 56.1% below the 396,521 cars produced in February, 1941.

February new car figures were announced by Division of Civilian Supply Director Leon Henderson of Office of Production Management, after a meeting with the passenger car subcommittee of the Automotive Defense Industry Committee.

OPM's comparison of February, 1942, allotments and February, 1941, production follows:

	Allotments Feb., 1942	Production Feb., 1941	Percentage Decreases in Allotments
GENERAL MOTORS			
Chevrolet	38,388	96,283	60.1
Buick	13,943	33,718	58.6
Pontiac	12,216	30,358	59.8
Oldsmobile	9,975	21,346	53.3
Cadillac	2,456	6,510	62.3
TOTAL **General Motors** Corp.	76,982	188,215	59.1
CHRYSLER			
Plymouth	21,406	49,848	57.1
Dodge	10,084	25,514	60.5
Chrysler	5,124	16,232	68.4
De Soto	3,567	8,730	59.1
TOTAL **Chrysler**	40,181	100,324	59.9
FORD			
Ford	27,461	67,102	59.1
Mercury	3,762	9,258	59.4
Lincoln-Zephyr	1,085	2,386	54.5
TOTAL **Ford**	32,308	78,746	59.0
TOTAL **Gen. Motors, Chrysler and Ford**	149,471	367,285	59.3
OTHER COMPANIES			
Studebaker	7,509	9,577	21.6
Hudson	5,505	6,481	15.1
Nash	4,675	7,935	41.1
Packard	4,905	4,055	21.0*
Willys-Overland	1,652	1,188	39.1*
Crosley	405	.....	....
TOTAL **Other Companies**	24,651	29,236	15.7
GRAND TOTAL	174,122	396,521	56.1

*Increase.

Highway Use of Motor Fuel Climbs 6%; Total Reaches 22,001,356,000 Gallons

NPN News Bureau

WASHINGTON, Nov. 22.—Motor fuel used on highways during 1940 climbed to 22,001,356,000 gal., an increase of 6% over 1939, according to report today from Acting Federal Works Administrator John N. Edy. An additional 2,037,169,000 gal. were used for non-highway purposes, which was an 11% increase over the previous year.

Highway use of motor fuel by private and commercial vehicles totaled 21,418,000,000 gals. State, county and municipal highway use totaled 391,000,000 gal. and federal use totaled 193,000,000 gal.

Following table shows gasoline useage by states for calendar year 1940:

State	(Figures in thousands) Highway Gal.	Nonhighway Gal.	Total Gal.
Ala.	250,234	13,627	263,861
Ariz.	99,998	11,518	111,516
Ark.	178,275	11,536	189,811
Calif.	1,766,144	182,736	1,948,880
Colo.	210,964	35,954	246,918
Conn.	365,429	14,572	380,001
Dela.	59,647	3,153	62,800
Fla.	377,489	27,926	405,415
Ga.	374,300	23,687	397,987
Idaho	97,510	10,134	107,644
Ill.	1,419,805	128,153	1,547,958
Ind.	642,589	57,771	700,360
Iowa	490,454	87,607	578,061
Kans.	349,282	144,232	493,514
Ky.	283,830	18,072	301,902
La.	249,757	20,159	269,916
Me.	150,002	7,359	157,361
Md.	294,208	18,537	312,745
Mass.	716,216	28,687	744,902
Mich.	1,101,900	121,911	1,223,811
Minn.	498,617	77,784	576,401
Miss.	200,565	9,784	210,349
Mo.	664,044	39,212	703,256
Mont.	109,723	25,251	134,974
Nebr.	211,823	25,029	236,852
Nev.	38,694	3,793	42,487
N. H.	91,413	4,414	95,827
N. J.	869,660	53,821	923,490
N. M.	96,903	11,931	108,834
N. Y.	1,876,170	94,184	1,970,354
N. C.	444,953	14,072	459,025
N. D.	85,779	60,436	146,215
Ohio	1,323,196	107,337	1,430,533
Okla.	382,228	58,363	440,591
Ore.	235,787	28,867	264,654
Penn.	1,517,775	64,200	1,581,975
R. I.	132,074	1,684	133,758
S. C.	220,359	13,948	234,307
S. D.	114,953	30,527	145,480
Tenn.	300,562	23,404	323,966
Texas	1,204,397	202,997	1,407,394
Utah	101,218	4,417	105,635
Vt.	68,661	2,145	70,806
Va.	400,159	24,271	424,430
Wash.	356,828	27,531	384,359
W. Va.	216,629	5,581	222,210
Wisc.	532,770	42,349	575,119
Wyo.	62,179	8,574	70,753
D. of C.	165,195	3,932	169,127
Total	22,001,356	2,037,169	24,038,525
Percentage	91.53	8.47	100.00

Expect Reduced Rail Rates On Unfinished Petroleum

NPN News Bureau

TULSA, Nov. 24. — Rails are expected to publish soon a tariff setting forth new and reduced rates on unfurnished petroleum products shipped from Coffeyville, Kans., and Sand Springs, Okla., to Petrolia, Warren and North Warren, Pa., and Wellsville, N. Y.

Specifically, the new rates are expected to apply on "crude petrolatum" suitable for mixing, blending or refining.

Southwestern lines have also approved extension of the new rate basis to include origin points in the Beaumont-Port Arthur, Tex., district.

Rails Cut Lube Oil Rates From Southwest Origins

NPN News Bureau

TULSA, Nov. 24 — Reduced rail rates on lube oil and grease shipped in tank car or packaged lots from southwestern origin points to so-called Colorado common points have been approved by Southwestern Freight Bureau.

Representative of approved rates are those shown below in cents per hundredweight:

Destination	Origin — Wichita, Kans.	Origin — Tulsa, Okla.
Denver	42c	44.5c
Pueblo	37	39.5
Colorado Springs	39	41.5
Trinidad	37	39.5

Approved rates shown above are 5c per cwt. higher than had been originally proposed. Rates beyond Colorado common points will be worked out by committees of Western and Northern Colorado lines to secure proper gradation over the common point rates.

Ask Reduced Rail Rates On Toluene Shipments

NPN News Bureau

TULSA, Nov. 24.—Proposed construction of a unit for the manufacture of petroleum toluene at a Texas City, Tex., refinery has prompted request for reduced rates on toluene shipped from point of origin to Missouri, Tennessee and Louisiana destinations.

Rates now being considered by Southwestern Freight Bureau are based on those approved, but not yet published from the Houston and Baytown, Tex., area.

Proposed rates from Texas City represent reductions of from 18c to 61c per hundredweight under present structure based on fifth class rates.

Expects I.F.A. to Approve Distillate Rate Basis

NPN News Bureau

CHICAGO, Nov. 24.—Illinois Freight Assn. is expected to approve shortly the establishment of same rates and weights on distillate fuel oil shipped from Southwest to I.F.A. territory as Interstate Commerce Commission prescribed in ICC Docket 28106 for gasoline.

Other rails put the new distillate oil basis in effect Nov. 5 and when I.F.A. stamps its approval on proposal, new rates will cover the entire southwestern and mid-western area set forth in ICC Docket 28106.

How Oil Jobbers Use Advertising

Advertising is one of the most used facilities of oil marketing. Yet NPN believes that it is none too well understood. Nor is it always given credit for the job that it is doing in oil and gasoline selling.

So NPN is making little journeys to oil jobbers who are using advertising with friendly and profitable understanding.

Herewith is the story of an Independent Jobber at Armada, Mich. It tells how the Armada Oil & Gas Co. uses, not only the national advertising of its nationally branded supplier, but his own supplemental advertising.

This jobber believes that it would cost him at least 1c a gal. more to operate if it were not for the strong national advertising of his supplier.

Generally, when one runs down complaints about the "cost" of advertising he finds that the advertising is not actually being used in the local selling. That is, the local jobber does not tie in his day-to-day sales efforts with the advertising; does not educate his own people and his dealers on what the advertising means—Ed.

IF YOU are interested in the operations of a really successful Independent oil jobber, and happen to catch Joe Miller, who *manages* and operates the Armada Oil & Gas Co., you will be mighty glad that you went to Armada, Michigan.

If you would like to go to the headquarters of this 4,000,000-gal.-a-year operation (oil ratio 1 to 50) you had better drive, for Armada is 9 miles from the nearest bus stop and there is only one train a day.

And you had better make a date with Mr. Miller and be prepared to ride around with him over the territory while you talk to him. For Joe will probably be busy calling on his 65 dealers, all of whom he sees at least twice a month—many more often. As the company's personnel consists only of himself, his daughter Angeline, who is the "office force", 4 truck drivers and a pump mechanic, there is not much time to lose, even though this jobber's working day is usually around 17 hours.

The small force employed by this company, considering the business it does, would seem paradoxical. But for that matter so does most of the entire operations.

For instance, where most jobbers go out in the country to "dig up business", Joe goes to Port Huron and other larger towns for his business and passes up most of the farm business in between.

Some companies lend equipment, but Mr. Miller sells his dealers on the idea of owning it themselves. And he is in such close harmony with his 65 accounts that they buy the equipment he recommends. He considers it a part of his sales program to keep all of his dealers sold on the idea of using the most modern and efficient equipment. If the dealers do not have the money to buy it, he will buy it for them and they pay him.

None of Mr. Miller's dealers are required to sign contracts. "That gives me the privilege of quitting them if they don't want to play my kind of ball", says Joe. Out of the very few dealers lost to competition—and there is plenty of it—in the last few years, the majority have asked to be taken back.

Advertising is a subject which Mr. Miller likes to talk about. He has no

Joe Miller, one man operator and manager of a 4,000,000 gal. Independent oil jobbing company spends 17 and 18 hours a day working. "But it is a lot of fun, and I don't have time to worry about things", says Joe

Four million gallons of gasoline a year are metered through this little 35,000-gal. bulk plant, operated by the Armada Oil and Gas Co., Armada, Mich. Vapor saving devices are used

One of two small delivery units for local deliveries. Like their "big brothers" the 3000-gal. jobs, these 1000 and 1700-gal. units are meter equipped and are always spic and span

elaborate budget system set up for the advertising that he does in his territory. Under his jobber arrangement he buys the greater part of material used locally from his supplier. He looks upon his supplier's national advertising program as his own, and refers to it as "our advertising". He spends approximately ⅛ of 1c per gal. for everything in the way of advertising, which includes poster boards rented from an outdoor poster company, newspaper advertising in the towns where he operates, novelties of various kinds including calendars, book matches, pencils. Little direct mail is used.

"I don't know how much our company spends (referring to his supplier) for advertising", Mr. Miller will tell you, "but without national advertising to back up my local efforts, I would have to have at least 1c a gal. more margin to do the business I do now. But I doubt if I could do the same amount of business by putting $40,000 into advertising, additional salesman, more help and the additional effort required to sell an unadvertised brand."

So Mr. Miller looks on advertising as part of his distribution system and looks to his supplier to do a good job, and he has found that by cooperation locally with his supplier's national program that he can do a more efficient job of selling, with less equipment and man power, at a lower cost.

"Moving Billboards"

At the top of Mr. Miller's local advertising list is an item that some marketers look upon as simply equipment. That item is his trucks. Mr. Miller calls them his "moving billboards". He says that he probably spends a bit more for truck equipment than he would have to. But he considers his four 3000 gal. tractors rolling along the roads and pulling up to dealer's stations one of his best advertising mediums.

Armada Oil and Gas Co., started with this station and a model "T" Ford with a 200-gal. tank in 1922

One of four 3000-gal. trailer delivery units used by Armada Oil and Gas Co. Joe Miller, manager of that company, calls them his "rolling billboards". Two smaller units are used for close deliveries and smaller dumps

All of the trucks of Armada Oil and Gas Co. are equipped with meters. Routing of drivers and meter deliveries permit maximum deliveries at a minimum cost, says jobber-manager Joe Miller

These tank trucks are all equipped with meters. They are kept washed and polished by the drivers, who wear the supplier's regulation uniforms. In addition to these 4 tractor jobs, 2 smaller 1000 and 1700-gal. trucks are used for short hauls. The drivers are paid much more than the average salary. All of them have been with the company for many years. Each man has his own route and customers and is never switched around. Except delivering the larger advertising material, such as large banners or cut outs, they make no delivery of smaller advertising material. Mr. Miller prefers to do that personally, then lets the drivers keep an eye on the dealers to see that they makes use of it.

Modern Equipment Good Advertising

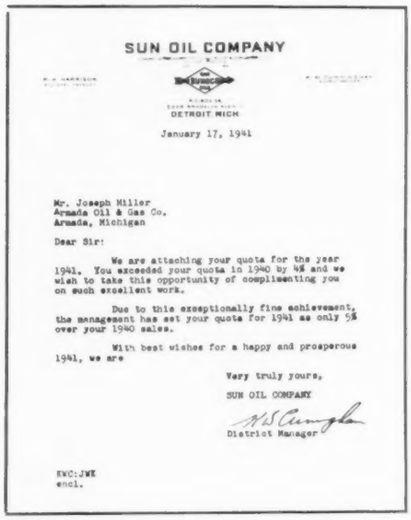
Another medium that Mr. Miller places high on his advertising list is equipment—such as pumps. It is his belief that a great deal of the effectiveness of national and local advertising is offset by poorly kept equipment. You won't find much, if any, obsolete equipment serviced by this jobber. But Miller goes further and sees that the equipment that is there is kept up. While he doesn't own the equipment himself at his dealer's stations, practically all of it has been purchased as a result of his recommendation. In making the recommendation as to what equipment to buy, the dealer is sold by Mr. Miller on the idea of uniformity in the territory. And he is also told that it will be maintained by the Armada Oil and Gas Co.'s maintenance man who specializes on servicing certain makes of pumps. As part of what Joe Miller considers good local tie in advertising, his service man regularly cleans the pumps, waxes them; when needed, they are given a paint job.

As a result, the company's equipment is always attractive and even the smaller dealer's places of business look inviting. Frequently the supplier's advertising program calls for the use of banners, cut outs and the like, which are attached to the pumps or station, or perhaps the station's identification sign. It is the mechanic's job to see

Headquarters of the Armada Oil and Gas Co., Armada, Mich. In the back is bulk oil storage. Entire company operations are directed from a small office in the rear. Station is leased

One of the company's leased stations in Port Huron, Mich., and one of the largest gallonage stations in that city

Cities Service Is Cooperating
100% in National Defense
Power Prover Checks Gasolene Waste
CITIES SERVICE dealers are proud of the part they are playing in National defense by helping motoring America conserve both cars and vital gasolene. Their tools in this endeavor—the products and the services they handle—are ideally suited to this purpose. And they are using them to full advantage.
For instance, there is the Cities Service Power Prover shown in action here. This extraordinary device, by measuring exhaust gases from an auto engine, quickly detects gasolene waste. In Washington, D. C., alone, local advertisements offering this conservation service free of charge have been answered by more than 2500 motorists.
CITIES SERVICE
CITIES SERVICE
POWER PROVER
31
CITIES SERVICE OILS
ONCE-ALWAYS
CITIES SERVICE OIL COMPANIES
NEW YORK CHICAGO SHREVEPORT



SUN OIL COMPANY

DETROIT MICH.

January 17, 1941

Mr. Joseph Miller
Armada Oil & Gas Co.
Armada, Michigan

Dear Sir:

We are attaching your quota for the year 1941. You exceeded your quota in 1940 by 4% and we wish to take this opportunity of complimenting you on such excellent work.

Due to this exceptionally fine achievement, the management has set your quota for 1941 as only 5% over your 1940 sales.

With best wishes for a happy and prosperous 1941, we are

Very truly yours,
SUN OIL COMPANY
District Manager

EWC:JWK
encl.

Behind this brief good work citation is a story not so terse. All through the depression years similar letters have been received by Mr. Miller from his supplier. And they might as well mail him another now for he is already over his 1941 quota

that these are taken down and destroyed when they become shabby.

No Advertising Waste

Getting dealers to make use of advertising and not waste it is perhaps given more personal attention by Mr. Miller than would be true of a jobber who was not paying his supplier for it. As a result, you never find unopened bundles of booklets and pamphlets lying around the warehouse. Mr. Miller has it in his head pretty well what a dealer will use. But when a new piece of material comes out, if it has not been shown at the supplier's regular dealer sales meeting, Miller shows it to the dealer and usually goes through the whole copy, discussing points in it. He usually asks, too, how many the dealer can really use, remembering that it costs him personally so many cents apiece. If the amount seems reasonable, the material is given the dealer—generally right out of the back of Miller's Buick sedan, which is usually loaded down with the company's latest advertising material.

"Selling" Use of Advertising

Here's a typical "delivery talk" overheard at a Port Huron dealer's station:

"Bill, I just got in a few Jack Frost special change-over folders that I bought over at Detroit. This will tie right in with the radio program, my fall billboards and the ads I am running in the paper. Ties right in with the picture show, too, for there is a Walt Disney cartoon on it. Just look at it; all colored up and everything, and makes a special change-over offer of 7 change-over services for $2.75. Look at them and figure what your profit would be. Maybe you don't need any of the folders. I don't know. What do you think? Sure you can use 50? Okay! But, boy I'd better not find them on the shelves next time I come around."

The same technique is used with many variations for every piece of advertising material. And it is done personally by Jobber Miller.

Advertising Monthly Allocation

With an office force consisting of only one girl, there is naturally not much time to have much of a bookkeeping system to keep track of advertising expenditures. It would seem that the advertising might get out of control. But it doesn't. The system used is very simple. Around the first of the year the company's own yearly quota for advertising is set up by months. This is on a percentage basis, and exactly the same percentage is used as to the amount of money to be spent each month for advertising. These percentages are:

Jan.	6.2	July	9.9
Feb.	6.0	Aug.	10.3
Mar.	7.2	Sept.	8.9
Apr.	7.7	Oct.	9.2
May	9.0	Nov.	8.5
June	9.1	Dec.	8.0

These percentage figures are converted to dollars and cents. The amount spent is usually about the same as the sum set up on the books. It is never exceeded, though in some cases all of the money appropriated one month is not spent during that period and is carried forward to the next month. Each monthly sheet shows the appropriation and commitments to date.

This plan has been used for a number of years. It has been found that the years where for some reason the advertising appropriation was cut down, the following year's business would be proportionately lower.

Local Tie-In

Not much strictly local advertising is used by this jobbing company. The supplier finds that the material he is able to buy from his supplier fills his requirements. Some newspaper advertising is used, but it is generally a reproduction of the supplier's regular advertising furnished in the form of a newspaper mat, and simply carries an imprint at the bottom reading "Distributed by the Armada Oil and Gas Company". Book matches are purchased by Mr. Miller and are distributed rather liberally by him as "calling cards". Where dealers wish to give them away in quantities they are purchased through Mr. Miller at his quantity price.

Once a year large "jumbo" calendars, usually showing a picture that appeals to sportsmen—this year it was a buck swimming across a river—are furnished to all dealers and some prospective dealers, and are placed in banks, public buildings and the like.

Home Consumer Advertising

For women and for homes, a couple of thousand very elaborate framed pictures are given out. These gold-framed 8 x 9 pictures have a little device at the bottom to pull out which reveals a calendar. This year's picture is a fire place scene, with a small thermometer worked in the group. Only a small line of the company's advertising appears on the pull out calendar. These cost 35c each.

Mr. Miller says that many of his friends and customers have been collecting these for several years, and that they look forward to them. He believes that this little novelty has built up and held a lot of consumer business for his dealers. They are not distributed promiscuously. Most of them are mailed out around Christmas time to a selected list in the Armada Oil and Gas company's territory.

Escaping "Donation Advertising"

"Donation advertising," that is, space in home talent show programs, special editions and the like is rarely used by Jobber Miller. The explanation is easy. The solicitors find it hard to catch him, and the space salesmen seldom take the trouble to drive 35 miles from the nearest large point in the territory, Port Huron, to sell their space.

But occasionally one of them does catch Joe. He listens to their presentation and tells the solicitor he believes that is about the finest piece of advertising he has seen. "I sure hope my supplier, who does my advertising, will buy it. Their office is in Philadelphia." Generally that is the last he hears of it.

"After War" Plans

So far, war conditions have had little effect on the operations of the Armada Oil and Gas Co. The company operates no stations itself and personnel is no problem. They own 2 extremely prosperous stations, one in Armada and one in Port Huron, which they lease to the operators. The station in Port Huron runs better than 35,000 gal. while the one in Armada runs about half that. The company distributes no tires or accessories. But practically all of the 65 dealers handle the same brand of tires and accessories. Mr. Miller works as conscientiously in helping his dealers merchandise tires and accessories as he would if his company were a distributor.

Mr. Miller was about ready to set up a tire, battery and accessory organization at the beginning of the defense program. But now he thinks it will be better to wait until the personnel problem is more stable. For when he does get in it, he wants to do it right.

He has other "after the war" plans, including storage facilities at his bulk plant, which now consists of one 20,000 and one 15,000 gal. gasoline tank, and one 16,000 gal. kerosine tank. The company has outgrown the plant, necessitating transport deliveries by the supplier from 1 to 3 times a day in 6500-gal. lots. The tanks are equipped with vapor saving devices, and like all other company operations, the plant, though small, has the latest equipment, including a meter system.

Pennsylvania Jobber Designs and Builds 'Dream Station'

Sales Manager Oplinger's "dream station" at Emmaus, Pa. The driveway was recently macadamized and the two 10,000-gal. storage tanks seen at the right in picture were placed underground

PENNSYLVANIA is justly proud of its "dream highway".

But no one individual can take credit for this engineering feat.

In Allentown, Pa., there is an oil man who is not only justly proud of his "dream service station", but also deserves full credit for its planning, construction and successful operation. It might rightfully be called the "Oplinger station", though it happens to be one of a group owned by the Lehigh Valley Oil Co., of Allentown.

E. E. Oplinger, who is vice-president of the Lehigh Valley Oil Co. is as proud of this station in a business way as he is fond of his home personally. Mr. Oplinger, who has spent all of his business life in merchandising, the last 12 in the oil business, had for several years wanted to build a station "his way". He convinced the Board of Directors, which passes on all large expenditures, that for around $6000 he could replace an outdated station with one as modern, attractive and business-getting as any competitor's outlet. Perhaps in some places that would not be such a feat. But in Pennsylvania, stations costing several times that much are no particular novelty.

Boosts Sales

The station, located at 6th and Chestnut Sts., in Emmaus, near Allentown, when completed ran about $200 more than the estimate, but the average oil man would probably estimate its cost at twice the amount spent. It has been completed a little more than year; many months, the gasoline gallonage has been double the preceding month and a large volume of accessory business is being done. Tire business amounted to practically nothing before modernization.

Motorists are attracted to the station by the mammoth green, red and black indirectly lighted neon sign on the front of the building. Balance is given the front of the station by attractive neon lighted eye catchers in the form of a thermometer and clock. A minimum number of signs are used. The company's bill board, standard at all of its stations, a curb sign and the supplier's point of sale identification sign completes the identification job.

Another outside feature is the trimming directly above and below the neon sign. This is 3 ft. from base, and is made of green and black vitrolite, a glass-like material.

The outside size of the station is 25 ft., 4 in. x 43 ft., 6 in. The building is of cement block and stucco construction. All windows except those in the sales room are solid steel sash. It is located on corner property with 116 ft. frontage and 116 ft. 6 in. depth.

Inside Features

The sales room is 14 x 16 ft. It has all plate glass windows and is paneled all around with green monotile. Wall shelves are adjustable and all glass.

NEED A TANK-TRAILER?—

CONCENTRATION ON STANDARD MODELS IS FRUEHAUF'S ANSWER TO A PRODUCTION SITUATION . . SO NOW DELIVERIES ARE A MATTER OF A FEW DAYS AT MOST . . *Not Weeks or Months!*

IF YOU CHOOSE Fruehauf Tank-Trailers, you needn't wait 60 to 90 days for delivery . . . for, with Fruehauf, *on order* and *on hand* are virtually the same thing. That's because, to meet a tightening production situation, we began some time ago to concentrate our efforts on *standard models* . . . meaning that we're able to keep our assembly lines running more steadily, more efficiently . . . and that we can produce more Tank-Trailers to meet your needs.

WIDE VARIETY OF MODELS

In the past, you may have bought tank models with special specifications (which, incidentally, would now take probably three months to produce), but you will undoubtedly find among the wide variety of Fruehauf standard models one or more that comes very close to your preferred specifications . . . and will handle your job equally well.

Capacities run to 5,000 gallons. There are several lengths and chassis types. You have options as to tire sizes, emergency valves and certain other specifications. Brakes are on the over-adequate, or safety, side . . . a regular Fruehauf policy.

QUICK DELIVERY ANYWHERE

If your Fruehauf Branch happens to have currently in stock the model that meets your particular needs, you can, of course, get delivery *today*. But if not, then delivery from the central distributing point in Omaha is only a matter of a few days . . . not weeks

FRUEHAUF TRAILERS

MOTOR TRANSPORT IS ESSEN

We can give it to you FAST!

Tank-Trailers awaiting drive-away from the Fruehauf distribution center in Omaha.

or months. For example, on a conservative basis of 300 miles a day, it's slightly more than two days to Dallas. To St. Louis, a day and a half. Even to Portland, Maine, it's only five days.

If you like, add another day or two for leeway, and still the difference between that delivery time and several weeks or even months is real money in your pocket, a real service to your customers, and a real contribution to the defense program. Only by choosing Fruehaufs can you save this difference.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY · DETROIT

Sales and Service in Principal Cities

FACTORIES: DETROIT, KANSAS CITY, LOS ANGELES, TORONTO

Fruehauf

FRAME-INTEGRAL DESIGN
PLUS
CONTROLLED SPRING ACTION
GIVES "PASSENGER CAR" RIDE
FOR *Tank-Trailers!*

SMOOTHER GOING ON ALL ROADS
. . . MORE PROTECTION FOR TANK . . .
FASTER SERVICE . . . LONGER LIFE . . .
MONEY SAVING ALL ALONG THE LINE!

Consider these features, too . . . a combination you'll get only in a Fruehauf:

Redesigned Surge Plates. Add strength to tank.

Higher Top Flashing. Provides extra manhole protection.

I-Beam Axle. Lighter, for equal vertical strength, than any other Trailer axle.

Mountain-Type Brakes. For quick, sure stops, long-life, minimum attention.

Meehanite Drums. The perfect braking surface. Long lining life. Quick heat dissipation.

360° Slack Adjuster. Perfect on-the-road brake adjustments are easy!

Emergency Vacuum Tank. You can brake your Fruehauf Tank-Trailer even after the truck motor stops!

Cupped, Interlocking Springs. No strain on the center bolt.

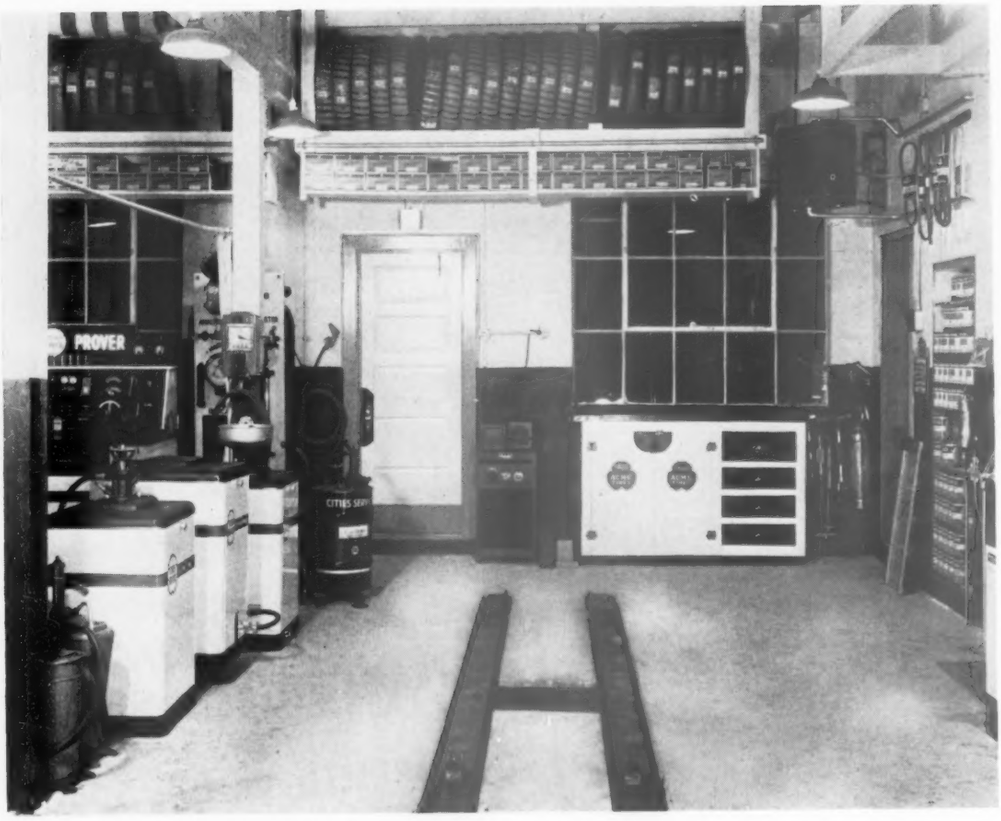
Adjustable Radius Rod. Hairline axle alignment. Realignment, too, in case of accident.

Roller Bearings. Generously over-size for extra life, extra rolling ease.

Stabilizer Bar. Across chassis at both front and rear spring hangers.

"Engineered Transportation" REG. U. S. PAT. OFF.

T I A L T O N A T I O N A L D E F E N S E



A portion of the lubritorium at Levoco Station No. 15 at Emmaus, Pa. In addition to complete and efficient arrangement for servicing cars and trucks, overhead tire and tube racks provide for 50 passenger car tires and 100 tubes. Another truck tire rack, not shown, provides storage for 15 truck tires

A portion of the sales room at Lehigh Valley Oil Co.'s modernized Emmaus, Pa., station. Department store technique is used

Lighting is the flush ceiling type with daylight bulbs. The ceiling is paneled block board. The walls are cream cement finish. The show windows, 5 ft., 6 in. long, 2 ft., 8 in. deep, are fluorescent lighted, as is the display case shown in the illustration. Latest type leather covered monel metal chairs blend in with the other surroundings and give this room an air of being a luxurious theatre or hotel lobby.

Next to the sales room are recessed wall shelves for displaying quart and 2-gal. cans of motor oil.

Lubritorium

The lubritorium is 23 ft. x 26 ft. There are a number of special features in this department. An overhead tire and tube rack provides for 50 passenger car tires and 100 tubes. Another truck tire rack provides storage for 15 truck tires. The center of the room has sliding curtains to divide the lubritorium from the power testing machine and car washing service. Another large curtain drops from the ceiling in front of the power testing unit when this room is used for car washing. The lift is depressed, level with the floor. In addition to the power testing apparatus, latest lubrication equipment is used. Battery charging and testing equipment and tire repair tools are conveniently located near the lift.

Restrooms

The ladies room, 10 x 5 ft., is divided into 2 parts. One section is a powder room equipped with full-length mirror, a small dressing table and stool and special waste receptacle. Beside the mirror and over the washbowl are fluorescent lights. The other part provides the latest type sanitary equipment, including individual sanitary seat covers. The walls are finished with monotile. A neon sign outside directs ladies to this room at night.

The men's room is also monotiled, fluorescently lighted on both sides of the mirror. All wall fixtures, such as drinking cup supplies, paper towels and the like are recessed, flush with surface.

Electric Razor Service

The men's room has special outlets for electric razors. A sign invites their use for that purpose. With the increase in men carrying electric razors on trips, this adds a touch of completeness, even if the service is not used. But it gives the operator an opportunity to sell a lubrication job should the customer decide to take time to shave.

Inspection Service

NPN's inspection form is used as the standard by which the station supervisor inspects the station.

Boiler Room

The boiler room is also a storage room. It is 7 ft., 6 in. x 11 ft., 4 in. It is provided with a fuel oil heating system, with blower fan attachment in sales room and lubritorium. Radiators are used in the rest rooms. Hot water is provided for all parts of the building. The air compressor is housed in this room. It is provided with shelves for all storage of accessories.

Operation

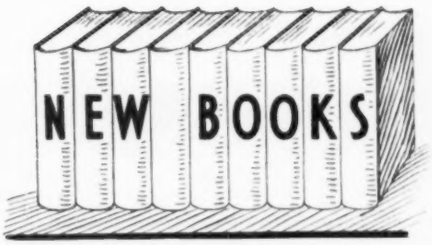
The station is operated on a salary basis. Every item sold there, as is the case at other Lehigh stations, is sold by the company.

As is the practice of some companies, extra items such as soft drinks, cigarettes and the like are placed there by the company, and not as an extra side line "pick-up" by the operators.

In addition to their regular salary, the men participate in a bonus arrangement. This is based on quotas. These quotas are figured on a reasonable basis, usually a percentage of gain over the previous year's sales. Some items are figured on a related selling basis. That is, so many sales of spark plugs, for instance, for 1000 gal. of gasoline.

Front page news in the company's house organ—Levoco News which goes to all employes weekly—seems to be consistently that "Emmaus Still Leads" in the quota ratings.

A closeup view of the "dream" station



New Oil Novel Puts Mud on Your Boots

A brand new treatment of an oil industry boom town and sudden ascent to riches, and a treatment that should meet the approval of working oil men, is the new novel by a former Texan, "Thunder in the Earth".

The story of a mythical but very illustrative Texas oil town of the 1930s is written around a Texas driller. He wanders about the Southwest, broke most of the time, gets into one of the many thousands of poker games in Tulsa, gets a job on a wildcat and proceeds from there with a lease, trouble, three girls, a few fights in the typical oil country "shack town", money and more trouble. He builds himself the usual "marble palace" of all get-rich-quick oil stories but this is unlike any "palace" ever reported by oil boom authors. This "palace" just fits the picture and the reader says the hero is welcomed to it.

The story also brings in the East Texas field, shows its devastating effect on oil prices and, our compliments to the author, makes clear what conservation of production is all about, how it hits the boom operator and protects the conservative oil man.

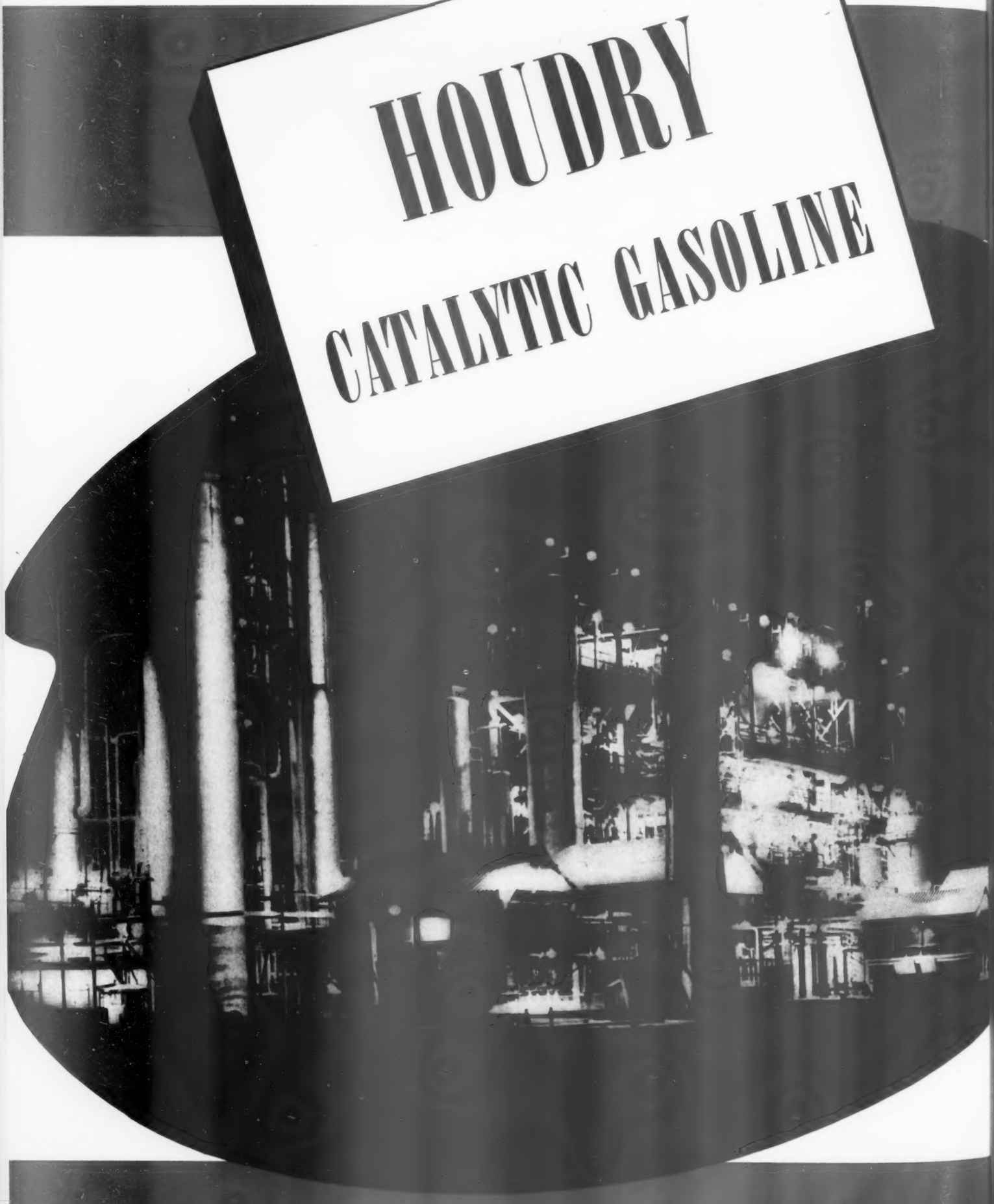
The story is an exceedingly accurate picture of this phase of the oil industry. It seems to be free of little inaccuracies and "boners" that the average oil novel writer generally falls into. We say get it. If you have plowed through the mud of an oil boom town, you will enjoy getting your shoes muddy again, and standing up for a snack of mediocre grub. If you never have suffered the inconveniences of such a town, get the book and you will suffer them quite acutely.

The author Edwin Lanham, is now a New York newspaperman. This is his sixth book, but we believe the first about oil. (Publishers, Harcourt, Brace & Co., N. Y., price $2.75 and worth it. WCP).

Shell Oil Magazine Wins Recognition

Shell Progress, monthly publication of Shell Oil Co., Inc., received the cup for the "campaign including most effective use of house magazines internal and/or external" donated by G. D. Crain, Jr., publisher of the *Industrial Marketing Magazine*, at the Direct Mail Advertising Assn. convention recently.

This is the second year *Shell Progress* has received an award. Last year, the National Safety Council judged the Shell house organ to be the best publication of its type in America.


HOUDRY
CATALYTIC GASOLINE

10% OF THE COUNTRY'S CRACKED GAS PRODUCTION BUT .... *It's just about the most important 10%*

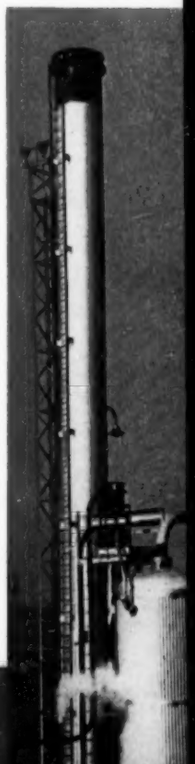
The average daily cracked gasoline production of the country for the first seven months of the year was around 900,000 barrels.

Houdry Catalytic Gasoline production totals approximately 90,000 barrels per day. And high octane gasoline — an aviation base gasoline — is also being produced direct from the unit which is regularly being blended to 100 octane with an average of 40% alkylate and 3 cc TEL.

Houdry Catalytic Gasoline has already made its mark in the motor gasoline trade. Its influence will be increasingly stronger as more of the Houdry units now being erected swing into production.

★ ★ ★

From any viewpoint, the following Houdry features cannot be over-emphasized: flexibility in that output can be quickly shifted; adaptability in that almost any charging stock can be used; simplicity in that relatively low pressures and temperatures are used; production of a high octane, stable gasoline.



Licensing Agents for the Houdry Catalytic Process

E. B. BADGER & SONS CO.

Boston, Mass.

New York Philadelphia San Francisco London Paris

★

Engineers and Contractors
for Petroleum Distillation and Refinery Equipment

11-BCO-9

MERCHANDISING

This is a readers' forum on merchandising of petroleum products, automotive accessories and allied lines. Let us have your ideas on how to improve selling at stations. Address: Merchandising Editor, NATIONAL PETROLEUM NEWS.

● We of NPN are not only trying to get ideas and facts in our editorial pages that will help MARKETING SALES MANAGEMENT do a better job, but in addition, we co-operate with our advertisers every possible way so that they in turn may contribute to everyone's information.

More and more advertisers, as can be seen from our own advertising pages as well as those of other leading industrial papers, are doing more than just telling their trade name, the size of the product and perhaps its color. They are giving details of what it is and how it is used.

They are also telling with FACTS, how their customers make more money and cut costs with their product. If it is something to be sold through service stations, they tell how effective national advertising is in making such sales. These advertisers show that they realize more and more that what our readers want are facts that will help them make money and not a few glittering phrases about their product.

So in telling the story to advertisers about oil marketing management, NPN urges that the advertising give facts that will help management determine the SALEABILITY or the sales or operating use of the product.

The "Tell-All" campaign referred to in the following is that of the Associated Business Papers, of which NPN is a member.

This "Tell-All" campaign is a collection of facts that analyzes the successful advertising copy employed by many manufacturers and advertising agencies which has resulted in business paper advertising becoming more helpful to business paper readers.

Among other things it tells advertisers that readers of business papers will read long copy—*if it is about their business;* that they will study details—even use a magnifying glass—*if it tells how to make a profit.* It shows that business paper readers are sophisticated people; that they refuse to be "took in" by unsupported claims. It brings out that first, last and always it is the advertiser's responsibility to dig out a continuous supply of convincing, up-to-the-minute sales material.

Here are some of the specific recommendations NPN recently made to an advertising prospect desirous of selling his product THROUGH service stations. If any of our readers can add any other suggestions to our recommendations, we will appreciate hearing from them:

"Assume that the Independent oil jobber knows little if anything about YOUR PRODUCT—its qualities, its profit possibilities, its merchandising, advertising, and promotion, or about the organization behind your product.

"NPN suggests that you apply the "Tell All" principles of business paper advertising to your Independent oil jobber copy.

"The Independent oil jobber will be interested in knowing:

"1. All about the organization that makes and sells YOUR PRODUCT.

"2. All about the qualities of YOUR PRODUCT that makes YOUR PRODUCT different from any other similar product.

"3. All about the advertising, promotion and merchandising help that YOUR PRODUCT provides to help accelerate the sale of YOUR PRODUCT.

"4. How YOUR PRODUCT will increase the dollar volume of the oil jobber's stations.

"5. How YOUR PRODUCT will help the Independent oil jobber sell retail outlets other than his gasoline service stations.

"6. How YOUR PRODUCT can become part of the Independent oil jobber's own program to "conserve automobiles" in the national emergency.

"7. What experience other Independent oil jobbers have had with YOUR PRODUCT.

"NPN recommends that YOUR PRODUCT advertising in NPN pages be SPECIFIC, in addition to "Telling All". NPN recommends that you use plenty of specific WHOs, HOWs, WHYs, WHENs and WHEREs in your advertising copy.

"Your company can use the Independent oil jobber as a vehicle for getting distribution at gasoline service stations for YOUR PRODUCT. In addition to this, YOUR PRODUCT can enlist the management ability and the selling drive of the Independent oil jobber to keep YOUR PRODUCT selling at the largest possible volume through the retail station.

"YOUR PRODUCT can use the Independent oil jobber as a vehicle for getting distribution at gasoline service stations.

"You can enlist the selling management of the Independent oil jobber to keep YOUR PRODUCT moving in profitable volume through gasoline service stations.

"By taking advantage of this management force in oil marketing, YOUR PRODUCT will insure itself the greatest possible return on the consumer acceptance you build for YOUR PRODUCT by means of your national, consumer advertising."

* * *

Sidewall Cleaner

Marketers, or perhaps their supervisors, have probably had station operators ask them how to clean white sidewall tires. Nearly every station meets the problem in a different way; some use a brick, others a scrubbing brush—and some just skip the whole business.

One western tire shop has found that this job can be done inexpensively and quickly with tri-sodium phosphate. This can be purchased for about 6c per pound. This shop has found that a pound will clean about 200 tires. The procedure is to simply sprinkle this cleaning agent lightly on the moistened white side wall. With a soft clean cloth rub until all dirt has been loosened. Then rinse with clean water, and the tire once more has sparkling white walls. The operation takes 4 or 5 minutes.

Builds 600,000 Miles of Roads

NPN News Bureau

CLEVELAND, Nov. 24.—Reporting on six years of work by an average of more than 2,000,000 persons, Howard O. Hunter, Commissioner of Work Projects, recently listed accomplishments of WPA as including 600,000 miles of road construction and improvement. This figure includes 80,000 miles built or improved in one year and sufficient mileage covered during the six years to equal 200 miles in every county of the U. S.

HEADQUARTERS FOR
HAND PUMPS
ROTARY AND PISTON TYPES

When an entire industry, through its purchases, establishes one company as the leader in a particular field, you may be sure that there is good reason for its choice.

In the case of McDonald Hand Pumps, that reason lies in a single word: Performance. The year-in-and-year-out leadership of the line is based on the day-in-and-day-out reliability of the products.

In the Sta-Prime Hand Rotary Pump shown at the right, for example, McDonald engineers set standards of performance never before even approached. In addition to all of the time-tested McDonald features, this model embodies a feature which insures its being primed at all times, eliminating the necessity of a foot valve. A special arrangement, moreover, permits quick and positive locking regardless of the position of the handle.

Whenever you need hand pumps, (and now is a good time to check on your requirements) think of the leader in its field—McDonald. Descriptive literature on request.

A. Y. McDONALD MFG. CO.
"The Home of the Swing Joint"
DUBUQUE, IOWA
There's a McDonald Branch or Distributor Near You

The STA-PRIME is available in combinations to fit any needs. **Plate 890-T**—a popular combination — is shown with an 8-ft. length of ¾" gasoline hose with nozzle.

PLATE 924—Efficient practice calls for the periodic removal of water and other foreign settlings from tanks—either fuel oil burner tanks or underground tanks at filling stations. Plate 924 is ideal for this purpose.

FIGURE 87-O—A handy, inexpensive hand pump for transferring distillate and oils from truck tanks to burner tanks, etc. Widely used also to completely drain tank cars where regular pumping equipment fails to do a complete job.

PLATE 890-G—Another combination of Plate 890 Sta-Prime Hand Rotary Pump, with a 42" length of 1" suction pipe and special bung screw threaded to fit 1½" or 2" opening in drum of tank.

McDONALD

Servicing the 1942 Cars For Their Conservation

Oil Jobbers must assume responsibility for making certain that their own and their dealers' stations receive the proper lubricants, accessories, information and other aids necessary in servicing the 1942 automobiles, efficiently and reliably. Because of curtailed production, owners of new cars will want more than ever to keep them looking better and lasting longer.

To inform the jobber quickly and accurately about the changes in the new cars over the 1941 models, NPN has prepared a series of articles of which this is the seventh.

1942 OLDSMOBILE

SUMMARY

- No particular changes in engine design affecting lubrication in the new models. Increased engine compression ratio and combustion chamber redesigning are featured as creating improved performance and economy.

- There are few changes in capacities and recommendations over 1941 models.

Capacities

	Six	Eight
Cooling system, qts.	18½	20½
Fuel tank, gal.	19	19
Crankcase, qts.	5	6
Transmission, lbs.	2	2
Differential, lbs.	2½	2½

Cooling system capacity on 1941 models 17¾ on six; 21½ on eight cylinder models.

Oil and Grease Recommendations

MOTOR OIL:

Anticipated Temperature	SAE Grade
Not lower than 32°F.	20 or 20-W
As low as 10°F.	20-W
As low as −10°F.	10-W
Lower than −10°F.	10-W plus 10% kerosine

Company states that for temperatures above 90° F. SAE 30 engine oil may be used. It takes 1½ quarts to bring the oil level from "add oil" to "full" on the dip stick.

Change Periods:

The company states in its breaking in and service hints: "Check the oil every 200 miles. Use grade 20-W oil for the first 1,000 miles". After this the company recommends that under normal driving conditions the draining of the crankcase and replacing with fresh oil every 2000 miles.

GEAR LUBRICANTS:

Transmission:

SAE 80 or 90 mild E. P. lubricant is recommended for the Syncro-Mesh transmission. The company states that hypoid lubricants should not be used in the transmission.

Change Period:

Every 10,000 miles, or once a year.

Differential:

SAE 90 passenger car duty hypoid gear lubricant is recommended by the company. They state that for temperatures below minus 10°, SAE 80 hypoid gear lubricant should be used.

Change Period:

Company recommends draining and replenishing every 10,000 miles or twice a year.

Accessories to Be Sold or Serviced

OIL FILTER:

The manufacturer does not supply filters on either model. Inlet and outlet connections are provided for installation on old models.

AIR CLEANER:

The carburetor is fitted with an air cleaner and intake silencer to keep dust from being taken into the engine. Company recommends that filter element be removed and inspected every 1000 miles and cleaned if necessary. Oldsmobile employs a crankcase ventilation system, consisting of an outlet pipe at the rear of the engine, and an inlet equipped with a baffle and air cleaner built into the oil filter pipe cap. The company advises that in the course of normal operation the filter will become clogged to some extent with dirt and dust and that it is extremely important that the crankcase ventilator inlet assembly be inspected every 1000 miles and cleaned if necessary.

The company recommends a heavy duty (oil bath) air cleaner for use in extremely dusty territories.

TIRE PRESSURES AND SIZES:

Size	Front and Rear
6:00 x 16	28 lbs.
6:50 x 15	26 lbs.
6:50 x 16	26 lbs.
7:00 x 15	24 lbs.

Recommendation is made by company that pressures be checked weekly.

LIGHT BULB SIZES:

	C.P.	Mazda No.
Headlamps	Sealed Beam unit, 35-45 (watts)	
Parking lamps, license lamp	3	63
Instrument lamp, glove compartment lamp, dome (conv.), underhood lamps, rear compartment lamp.	2	55
Indicator lamps	1	51
Dome lamp	6	82
Tail and stop lamps	3-21	1154-L

TYPE SHOCK ABSORBERS:

Delco, double acting, piston type shock absorbers are used on all models. Company recommends checking and refilling every 10,000 miles.

SPARK PLUGS:

Type 44 AC Spark plugs are used on all models. They are of metric type with 14 m.m. threads and 13/16 hex body. Gap setting is .040" on 6 cylinder and .030" on 8 cylinder model. Company recommends that plugs be replaced at intervals of 10,000 miles.

FUSES:

All lighting circuits protected by current limit relay.

Size Fuse and No.	Location
5 amp.—1AG	Under Hood lamp, in feed circuit.
20 amp.—SFE	Radio, deluxe, in feed circuit.
15 amp.—3AG	Radio, deluxe, in radio.
14 amp.—SFE	Radio, standard, in radio.
10 amp.—7AG	Condition, air heater, in switch.
10 amp.—3AG	Dual flow heater, in switch.
10 amp.—7AG	Underseat heater, in switch.
10 amp.—7AG	Defroster, underseat, in switch.
2 amp.—1AG	Clock & Lamp package, in feed circuit.
20 amp.—3AG	Fog lamp, in switch.
9 amp.—SFE	Direction signal lamp, in feed circuit.
2 amp.—1AG	Electric clock, in feed circuit.
9 amp.—SFE	Light switch, in switch.

ACCESSORIES SUGGESTED BY COMPANY:

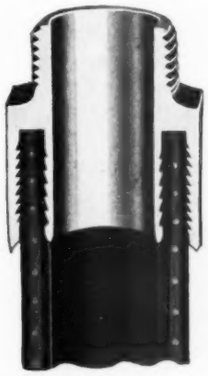
Dash heater, seat covers, electric tuning and push-button radios, rear fen-

Streamlined Flow

A VITAL CONTRIBUTION TO NATIONAL DEFENSE

Millions of dollars have been spent by our government to perfect the streamlining of modern combat planes. Giant wind tunnels stand as monuments to the importance of streamlining, and every new plane is subjected to exhaustive "windflow" tests long before it is ready for the assembly line.

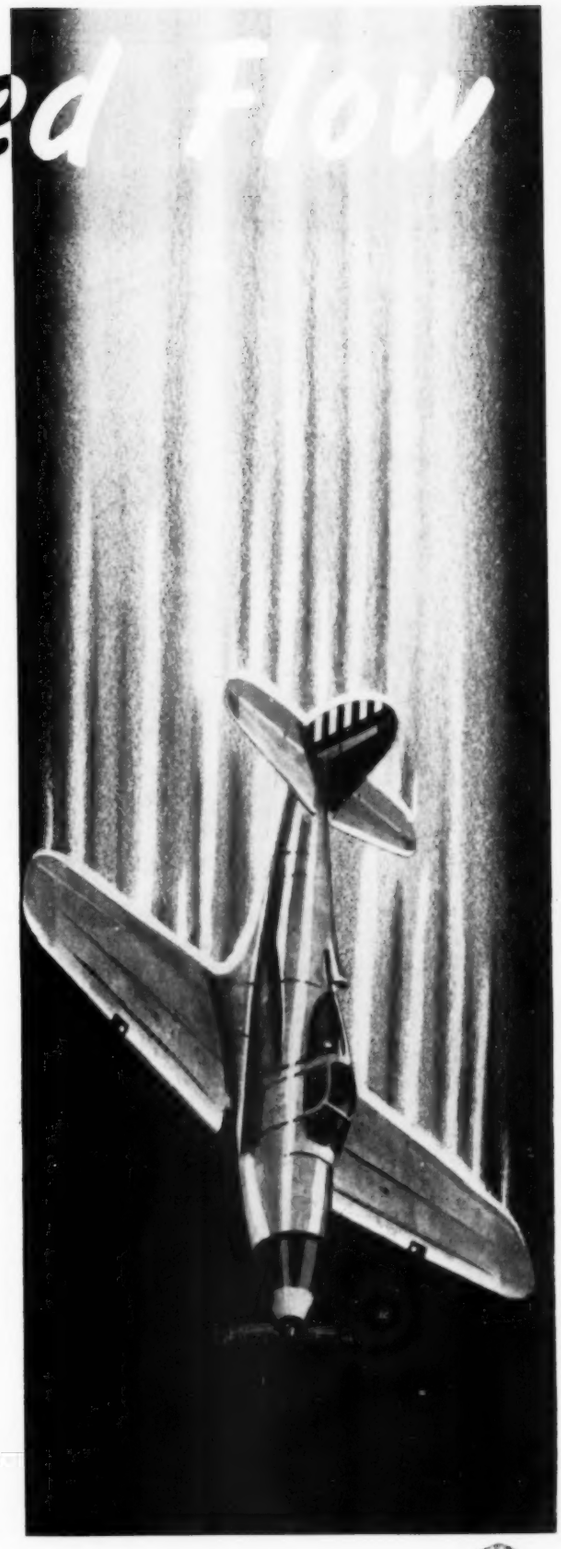
The principles of streamlining have also been applied to UNI-FLO and STREAM-FLO gasoline line couplings. Their smooth inner bores—where coupling meets hose—assures unobstructed flow and maximum speed for refueling operations. And their sturdy leak-proof and seep-proof drop-forged brass construction stands up under rough and tough field conditions.



STREAM-FLO Deep flanges weld the hose permanently to this all brass coupling—won't leak or pull loose (above).

UNI-FLO This coupling is detachable and re-attachable. In addition, it embodies all of the important anti-leak and time-saving features of the STREAM-FLO. Wire cuff guard optional. Shown at left.

FOR THE VITAL ZONE . . .
WHERE HOSE MEETS COUPLING . . .
SPECIFY INTERNATIONAL



Airacobra photo courtesy Bell Aircraft Corp.

International

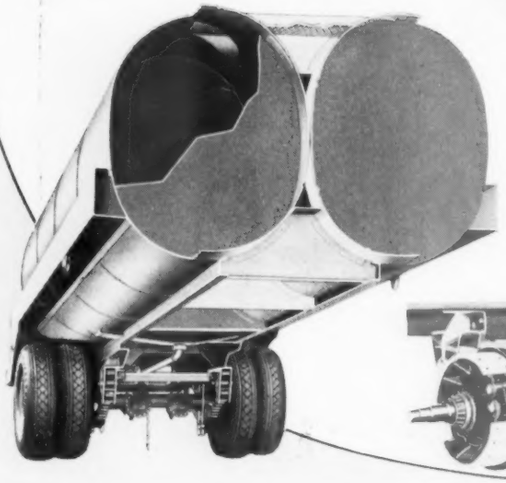
10709-15 QUINCY AVE. **METAL HOSE CO., Inc.** CLEVELAND OHIO

BUTLER TWIN –

Saving of steel is one of the prime necessities confronting the defense program. Three Butler Twin-Tank Safety Transports of 4,000 gallon capacity each—total 12,000 gallons—weigh approximately 20,000 lbs. A single 12,000 gallon tank car weighs approximately 50,000 lbs. Thus 30,000 lbs. of steel are saved. The steel to haul one gallon of petroleum is cut down from 4.2 lbs. to 1.6 lbs.

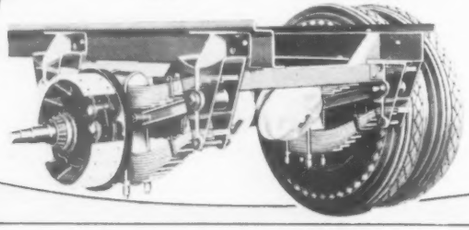
By increasing use of highway transports, the oil industry is contributing heavily to the conservation of steel and at the same time gaining the 8 to 10 times greater efficiency shown on the next page.

Above—Two Butler Twin-Tank Safety Transports supplying crude oil to a refinery located at an oil field, but 15 miles from the nearest railroad.



At left—Butler Twin Tank construction gives you the only transport with I-beam integral frame deeper than the tank body and a 20 to 1 factor of safety.

Below—Two-Step Springing gives Butler Twin-Tank Safety Transport a soft, floating ride when traveling empty—frees it of road shocks, lengthens its life.



SALES OFFICES:

Kansas City Minneapolis New York
Chicago Washington Cleveland
Tulsa Shreveport Houston Denver

FACTORIES:

Kansas City Minneapolis
Galesburg

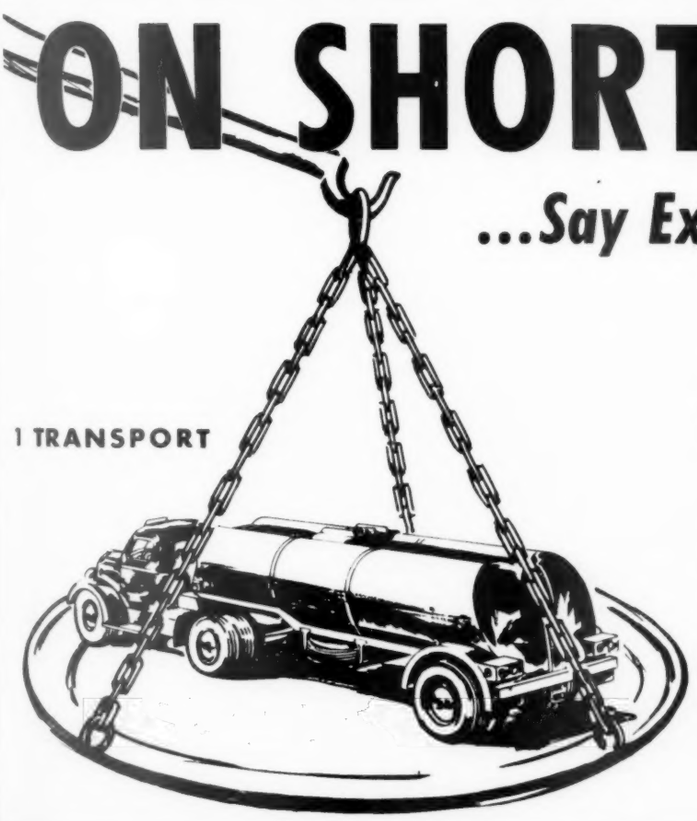
•

For Prompt Handling, Send All Inquiries To Kansas City, Mo., or Minneapolis, Minn.

TANK *Safety* TRANSPORT

8 TO 10 TIMES MORE EFFICIENT ON SHORT HAULS

...Say Experienced Operators



One motor transport will deliver 8 to 10 times as much gasoline as can be hauled with one tank car on short hauls. That is the claim of experienced operators. On both short and long haul work motor transports afford greater speed and mobility.

It is easy to see why this is true. It is a matter of record that a tank car moves an average of only 2½ hours per day. On average short haul work a Butler Twin Tank Safety Transport will make a minimum of two round trips per day.

Before you buy any transport send for the Butler Transport Books—two of them full of facts on the highest engineering developments in liquid load highway transportation—including Soft Ride Two-Step Springing.

BUTLER MANUFACTURING COMPANY

1241 EASTERN AVE., KANSAS CITY, MO. 941 SIXTH AVE. S. E., MINNEAPOLIS, MINN.

Send ☐ Butler Transport Book

Send ☐ Butler Truck Tank Book

Firm Name_____

By_____ Title_____

Address_____ City_____ State_____

der panels, safety light, direction signals, fog lamps.

General Servicing Data

HOW TO GET UNDER THE HOOD:

At the left of the steering column is a small button that controls the hood latch. The hood is released by pulling the button out; when the hood is closed, the button automatically returns to the "locked" position.

The hood has an additional safety catch which must be released from the outside before the hood can be raised. The hood springs up slightly when the inside control is released. Pressure of the fingers on a metal plate beneath the hood lip releases the safety catch.

BATTERY:

The battery is located under the hood at the left side of the engine. Company recommends that the water be checked about once a week.

A 15 plate 100 amp. hour capacity battery is used with the 6 cylinder engine and a 17 plate, 120 amp. hour capacity with the 8 cylinder models.

1942 DE SOTO

SUMMARY

- Along with increased horsepower, claim is made for improved economy. The intake system has been improved, and new fuel and oil filters have been added.
- Lubricant recommendations for the Simpli-Matic underdrive transmission in addition to the preferred lubricant, include optional recommendation, retroactive to 1941 DeSoto cars with this transmission.

Capacities

Cooling system, qts.	18
Fuel tank, gal.	17
Crankcase—qts.	5
Transmission—	
Conventional—pts.	2¾
Underdrive—pts.	2¾*
Differential—pts.	3¼

(No change from 1941 model)

Oil and Grease Recommendations

MOTOR OIL:

Anticipated minimum Atmospheric temperature

Not lower than 32° above zero	SAE 20 or No. 20-W
As low as 10° above zero	20-W
As low as 10° below zero	10-W
Lower than 10° below zero	No. 10W plus 10% colorless refined kerosine

Change:

This is a change from 1941 *recommendations*, which called for use of SAE 30 when anticipated minimum atmospheric temperature was not lower than plus 32° F.

*Simpli-Matic underdrive is special equipment.

Company states: "The interpretation of this table means that for cars of comparatively low mileage SAE 20 or 20-W is recommended as general summer oil. Either grade may also be used in tropical climates during the winter months or No. 20-W may be used in localities where only very mild winter conditions are encountered such as not lower than 10° above zero. If, as a result of continued high speed driving or from some other cause, oil consumption should become a factor, SAE 30 oil may be used for temperatures above 32° above zero.

Change periods:

The company states that when the speedometer registers 1000 miles, the crankcase should be drained and refilled with proper viscosity oil according to the anticipated atmospheric temperature. Oil changes should then be made, under normal conditions, every 1500 to 2000 miles during winter and every 2500 to 3000 miles during summer, according to recommendations.

The company recommends in their owner's manual that the oil level be checked each time the owner stops for fuel.

(Same change periods recommended for 1941 *models)*

GEAR LUBRICANTS:

Transmission (Standard):

SAE 90 fluid gear lubricant is recommended for all temperatures above minus 10° F. For temperatures consistently below minus 10° F., use of SAE 80 is recommended—or a mixture of 60% SAE 90 fluid gear lubricant and 40% No. 10-W engine oil.

Transmission (Simpli-Matic)

Company recommends use of a highly refined mineral oil of the viscosity range of No. 20-W engine oil with which has been compounded 10% of sulphur saponifiable base. The pour point should be below the anticipated operating temperature.

They also state that quality grade engine oils of SAE 30 may be used above plus 32° F. and No. 20-W below plus 32°, if desired. The pour point of the No. 20-W should be below the lowest anticipated temperature. The company's preferred lubricant for Simpli-Matic transmission is mineral oil, and the optional recommendation the engine oils, see specifications above.

Hypoid Gear Lubricants are not recommended for use in the Simpli-Matic transmission.

The company states that the interpretation of the optional recommendations means that No. 20-W engine oil may be used as a general winter lubricant. They state that No. 20-W oil may be used with safety for all normal driving conditions even though the winter season is mild and the atmospheric temperatures abnormally high for winter. They state that No. 30 oil may also be used in the transmission during the winter months in tropical climates or where winter conditions are mild.

Change period:

Twice a year, or every 15,000 miles is recommended as the change period on the standard transmission. Company states: "There is no filler or drain plug in extension case."

The same change periods are recommended on the Simpli-Matic transmission, but recommendation is made that transmission lubricant level be checked every 2000 miles. It should be up to the filler hole in the side of the transmission case. The company states that should it become necessary to add lubricant during the first 15,000 miles, their preferred recommended lubricant (refined mineral oil of the viscosity range of No. 20-W engine oil) should be used, or if desired the optional lubricant may be used according to climatic conditions or the season of the year.

Differential Lubricant:

Extreme pressure hypoid gear lubricant is recommended—Summer and normal Winter, SAE 90, extreme winter and average temperature below 0° F., SAE 80. The company cautions against mixing one brand of extreme pressure hypoid gear lubricant with another brand. They state that if it is necessary to add lubricant to maintain level, drain, flush and fill.

Change period:

Every 15,000 miles. Flushing oil (not kerosine) is recommended.

Accessories to be Sold or Serviced

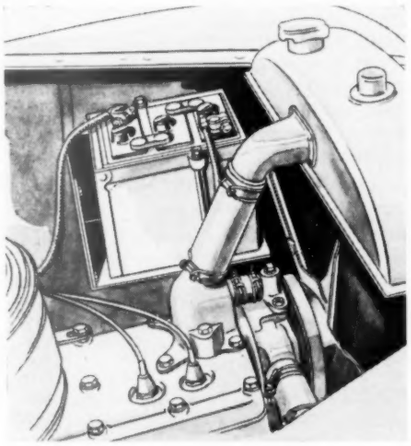
OIL FILTER:

DeSoto cars are equipped with oil filters. They state that it is advisable to install a new oil filter every 8000 miles.

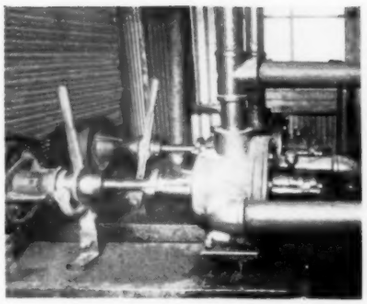
AIR CLEANER:

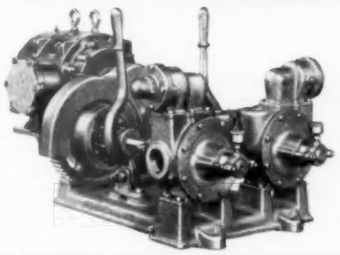
The DeSoto engine is equipped with a heavy duty oil-bath type air cleaner. To service the air cleaner:

1. Remove the wing nut which holds the cover and filter assembly in place.
2. Remove the filter element and rinse in kerosine.
3. Loosen the support bracket cap screw and remove the air cleaner base from the carburetor. Then empty the dirty oil from the reservoir and clean out the pan. **Caution.** The air cleaner is attached to the carburetor by means of a tapered, sealed mounting. To remove the air cleaner base, therefore, it is necessary to loosen fully the retaining clamp screw so as to permit easy separation of the tapered parts. No attempt should be made to force the air cleaner base off its mounting in lieu of fully loosening the retaining clamp.
4. Install the air cleaner base, making sure the gasket is in place between the base and the carburetor flange to insure a tight and firm connection.
5. Fill the air cleaner reservoir to the indicated level with one pint of SAE 50 engine oil for temperature above 32° F., or the same amount of No. 20-W for temperature below 32° F. **Caution:** Avoid overfilling air cleaner with engine oil as too much oil may cause excessive fuel consumption.
6. Install the filter element and cov-



DeSoto suggests frequent checking of water level in the battery, located on left side of the engine. Company suggests checking of voltage regulator if there is need for addition of any considerable amount of water in the battery





TRANSPORT HAULERS

The new Blackmer 200 GPM Truck Pump saves you valuable time at terminals. Investigate it.
(Other sizes 50 and 100 GPM)

★★★
VETERANS OF WORLD WAR I
★★★

BLACKMER
·ROTARY·
PUMPS

Installed in 1918 AND STILL RUNNING in a major oil company's bulk plant in Ohio.

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FAMOUS BUCKET DESIGN

THIS NEW BLACKMER DUPLEX UNIT gives you even greater efficiency, PLUS the low maintenance cost and long life that makes Blackmer standard pumping equipment in bulk plants, blending plants and terminals, the world over. Capacity 50 to 700 GPM per pump. All standard drives.

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ARMY TWILL BY REEVES SANFORIZED*
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MADE TO GOVERNMENT SPECIFICATIONS

REEVES Glengarrie POPLIN

Demand these labels when buying uniforms

BUILD BIGGER SALES WITH REEVES ARMY TWILL

Service men whose uniforms *always* look neat and trim get more sales, build greater good will. So specify *Reeves* fabrics—not only for appearance sake but because they wear long and well for utmost economy.

Uniforms made of Reeves Army Twill meet exacting U. S. Government Tests for better wear, longer life, and color-fastness. Its fabric vitality keeps it "in shape" under trying conditions.

For matching shirts specify GLENGARRIE POPLIN, a durable, stylish fabric that comes in a wide range of colors. Both fabrics are Sanforized* against shrinking.

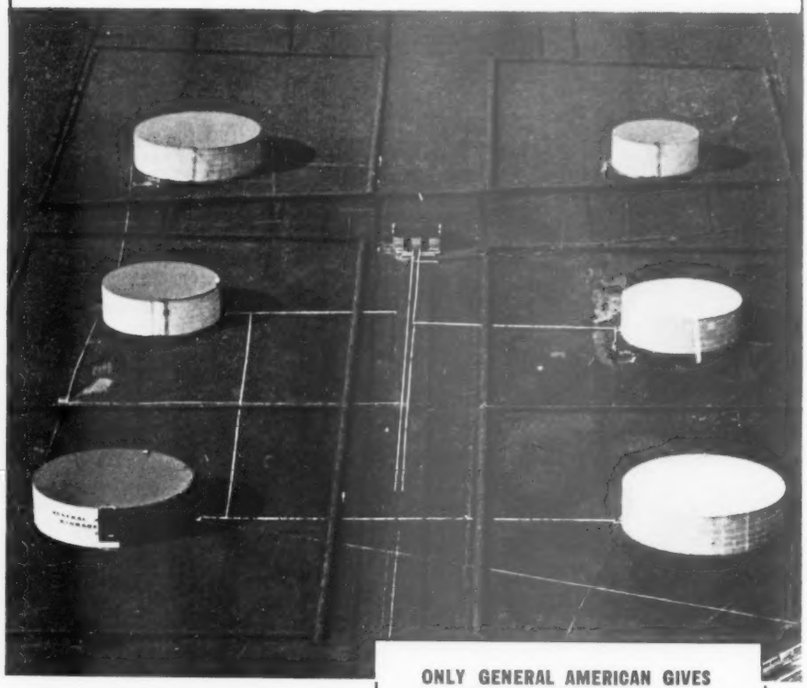
*Fabric shrinkage not more than 1%. (U. S. Government Test CCC-T-191-a)

See your nearest dealer for uniforms, sport and work clothes made from these famous fabrics, or write for colorful leaflet to:

45 OVER 25,000,000 Yards of Reeves Army Twill sold to the U. S. ARMY

REEVES BROTHERS, INC.
54 WORTH STREET NEW YORK CITY

Choice "Seats" . . . on the 100 yard line!



In storing bulk liquids, contamination may easily result if dissimilar commodities get too close to one another. That *can't happen* at a General American Terminal. Not only are separate pumps, lines and tanks used for unlike products, but each type goes into a distinct sector—either 100 yards away from "unfriendly" liquids, or each tank entirely surrounded by high dikes. Only General American gives shippers *all* the benefits listed below. Investigate—and *profit!*

ONLY GENERAL AMERICAN GIVES ALL THESE ADVANTAGES:

1. NO CONTAMINATION. Separate pumps, lines, storage zones for dissimilar commodities.
2. MODERN PROTECTION. Latest safety appliances; lowest insurance rates, minimum evaporation losses.
3. RELIABLE CUSTODIANSHIP. Our warehouse receipts are highest type of collateral everywhere.
4. INDEPENDENT OWNERSHIP Strictest privacy; we do not buy, sell or refine any commodities.
5. NO WHARFAGE. There is no wharfage charge at our own private docks.
6. SPEED WITH SAFETY. Day and night crews, complete facilities, eliminate all shipping delays.
7. WORLD'S LARGEST TANK CAR FLEET. One car or hundreds, wherever and whenever needed.

GATX GENERAL AMERICAN

Strategically located to serve you!

GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope, La. and Westwego, La., (Port of New Orleans)
Corpus Christi, Texas
Carteret, N. J. (Port of New York) Galena Park, Texas (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

er, being sure to tighten the wing nut which holds them in place.

TIRE PRESSURES AND SIZES:

Size	Lbs. at Normal Air Temperature Front	Rear
6:25" x 16"	28	28
6:50" x 16" (7-Pass.)	30	30

Company recommends that tire pressures be checked at least once a week under normal driving conditions and more frequently if the car is used extensively such as on long trips.

LIGHT BULB SIZES:

Location	C.P.	Mazda No. (watts)
Headlights	45-35	
Headlight upper beam indicator light	...	51
Map light	1½	55
Tail light	3	63
Instrument lights	6	81
Reading light	15	87
Rear license plate light	3	63
Ignition switch light	.	51
Parking light	3	63
Stop light	21	1129
Front directional signal*	21-3	1158
Rear directional signal*	21-3	1158
Directional signal indicator*	...	51

*Special equipment.

General Servicing Data

HOW TO GET UNDER THE HOOD:

Hood lock control button is located on extreme lower left of instrument panel. To open hood, first pull this button. Then release the safety catch in front of hood itself. The hood is controlled by balancing springs which provide for easy operation. The balancing springs are also intended to keep the hood in a raised position automatically. To close hood, push down.

TYPE SHOCK ABSORBER:

Hydraulic, double acting telescopic, front and rear.

SPARK PLUGS:

Type	Metric 14 mm
Gap	.025"

Company recommends occasional spark plug adjustment check be made; replacement every 10,000 miles of travel, and that the porcelain on the plugs be wiped clean often.

FUSES:

Name	Fuse	Location
Radio (special equipment)	14 amp.	Radio lead wire
Clock (special equipment)	2 amp.	Clock lead wire
Simpli-Matic Transmission Solenoid	30 amp.	Under relay on left side of dash

The lighting circuit of the car is protected by a circuit breaker located back of the light switch. In case a short circuit develops in the lighting system, the circuit breaker opens automatically before damage occurs.

BATTERY:

The battery is under the hood—on the left side of the engine. Voltage, 6; capacity in ampere hours, 105 at the 20 hour discharge rate; terminal grounded positive.

Correction

In NPN Oct. 22, p. 36, motor oil specifications on Dodge-Plymouth should read:

10-W motor oil recommended for temperatures as low as 10° below zero. 20-W recommended for temperatures as low as 10° above zero. 10-W plus 10% colorless refined kerosine recommended for temperatures lower than 10° below zero.

MARKETS

Gulf

NEW YORK, Nov. 22. — Min. 80 oct. (research) gasoline was down 0.25c to 6.5c at the Gulf the past week, with four transactions reported at that price. Two cargoes of this grade were reported sold by independent refiners at 6.5c, one of 80,000 bbls. for mid-December lifting, the other for prompt lifting. Sales of a cargo of min. 80 oct. by a major company and of 76-80,000 bbls. to a major company, both at 6.5c, also were reported.

Refiner who had been offering a cargo of gasoline for late December lifting as min. 80 oct. (research) at 6.75c, or 68-70 oct. (ASTM) unleaded at 6.25c, disclosed that the cargo was sold as 68 oct. unleaded at 6.25c. Cargo of 31 oct. (research) which had been offered at 6.75c for January lifting was withdrawn from market.

Inquiries for a cargo of 65 oct. (ASTM) unleaded and 25,000 bbls. 75 oct. (CFR) gasoline for prompt lifting were reported. No quotations or offerings of gasoline were reported by independent refiners from the Southwest. Brokers and buyers at New York also said that "no gasoline is being offered," although reports were that most refiners have some reserves. Many were said to have received indications from the Navy Department as to what quantities of gasoline and other products they are expected to furnish for lease-lend in the coming months. One source commented that the fact that OPA apparently is not concerned with prices paid by the Navy "contributes to the willingness of refiners to hold material for lease-lend."

Two ships' bunker sales of Grade "C" at $0.925 were reported by one refiner. Quotations of other refiners for bunker lots ranged from $0.85 to $0.95. Inquiry for a 75,000-bbl. cargo of Bunker "C" was reported for first-half-of-December lifting, coastwise, with quotations ranging from $0.85 to $0.96.

Refiner quoting 4.5c on kerosine reported an inquiry for 80,000 bbls. on which he said the buyer was willing to pay 4.25c. Inquiry also was reported for 15,000 bbls. 41-43 w.w. kerosine for first-half-of-December lifting, barge shipment up the Mississippi River. Refiners quoted 4 to 4.5c for cargo lots of kerosine.

California

LOS ANGELES, Nov. 22. — Quotations for cargoes of 390 e.p. blend, 68 octane, and 375 e.p. blend, 70 octane, advanced 0.125c the past week, with the two grades ranging from 6.125 to 6.25c, and 6.375 to 6.5,c respectively.

In the domestic market, some independent refiners in the Los Angeles Basin were reported making deliveries of gasoline at 4.5c for third grade.

Low grade, high sulphur fuel oil, 8 to 10 gravity, was quoted at $0.68 per bbl. at some independent plants in the Basin area. Better quality oil in the heavy grades ranged from $0.75 to 0.80 per bbl. and light grades from $0.80 to $0.85.

Quotations on gas and diesel oils ranged from $1.15 to $1.20, and on kerosine distillate from $1.15 to $1.26 per bbl.

Atlantic Coast

NEW YORK, Nov. 22 — Heating oils "softened" with the return of warmer weather the past week, according to reports of many Atlantic Coast suppliers. Call for kerosine, No. 2 fuel, and heavier fuels used for heating was reported "slack". Some, however, said these products continued "sound" with movement good. Reports of price shading on No. 2 fuel at New York could not be confirmed.

No let-up in demand for heavy fuels for industrial use was reported. Gasoline demand also continued heavy. "It's more than we can handle, and climbing," one supplier said. Most suppliers were limiting sales to regular customers and reporting shipments against contracts good.

Quotations for all products were unchanged.

Mid-Continent

TULSA, Nov. 22. — Quotations for all products were unchanged in the Mid-Continent the past week. Gasoline shipments against contracts continued good, with some reports of "very heavy" demand for the season. Lube demand was good with more activity than for some time. Burning oil demand also was good, although some slackening in orders was reported early in the week as result of warm weather.

Substantial quantities of gasoline called for in Army first quarter 1942 bid invitations were said to be "tightening the market." However, reports of price shading by East Texas refiners were heard with some sales "0.375c below the market" said to have been made. Two Texas refiners said Gulf Coast refiners were buying from East Texas refiners to meet inland commitments.

Quotation based on "market-price-date-of-shipment" was made by an Oklahoma refiner on inter-refinery inquiry for 300,000 gals. 72-74 oct. gasoline per month over first quarter 1942; Oklahoma refiners' quotations ranged 6-6.375c for 72-74. Twenty cars 60 oct. & below were sold by North Texas refiner for shipment over December based on "market-price-date-of-shipment" and quotations of North Texas refiners ranged 6-6.625c.

Domestic lube inquiries reported by one refiner ranged up to 10,000 bbls. of 150-160 D bright and up to 2000 bbls. of neutral. Other refiners reported good volume of inquiries for neutrals and blended oils.

Pennsylvania

CLEVELAND, Nov. 22 — Min. 80 oct. (research) gasoline and some grades of light fuels were quoted lower in the Western Penna. lower field the past wek. Lube and wax quotations for most part were reported unchanged.

Lower field refiner cut his Min. 80 oct. quotation 0.25c to 7.75c; one other refiner quoted 8c.

No. 3 and 36-40 gravity fuels also were down 0.25c in the lower field, ranging from 5.375 to 6c, and 5.25 to 5.875c, for the two grades, respectively. Illinois and Michigan fuels continued to "cut in heavily" on Penna. oils, refiners said. A 200,000-gal. sale of 36-40 oil was reported for cracking; price was not disclosed.

Wax was described by some sellers as "easier". Some 15 cars of scale were said to have sold at 6c, New York. Quotations or sales under 6.1c, New York, could not be confirmed.

Bright stock was "plentiful", and buyers were said to be bidding "considerably under 25c"; quotations ranged 25 to 26c.

Mid-Western

CHICAGO, Nov. 22. — Movement of most products was reported good by Chicago sellers the past week. Calls from buyers specified rush shipment of fuel oils in many instances, it was said. Gasoline demand was "off considerably" with supplies "freer". Quotations for all products were unchanged.

Open spot sales reported during the week by 4 marketers were: 11 cars 80-82 oct. Ethyl at 6.5c; 6 cars 72-74 oct. at 5.875c; 6 cars 60 oct. & below at 5.25c; and 1 car 41-43 kerosine at 3.875c, FOB Group 3.

One refiner reported quoting 7.4c for 80-82 oct., and refiners' quotations ranged 6 to 6.375c for 72-74 oct., 5.2 to 5.625c for 60 oct. & below, and 4.375 to 4.75c for 41-43 kerosine, FOB Group 3.

Marketers Group 3 quotations ranged 6.125 to 6.5c, 5.625 to 5.875c, 5.125 to 5.25c, and 3.75 to 4.125c, for the 4 products, respectively.

Marketers also sold 1 car 72-74 oct. at 7.25c, FOB Chicago district refinery; 1 car No. 5 fuel at 4.38c, and 4 cars No. 6 fuel at 4.05c, delivered Chicago.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (Nov. 18 to Nov. 24)

	Monday Nov. 24	Friday Nov. 21	Wednesday Nov. 19	Tuesday Nov. 18
U. S. Motor, (ASTM octane)				
80-82 octane Ethyl:				
Oklahoma	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25
Mid-Western (Group 3 basis)	7.4 (1)	7.4 (1)	7.4 (1)	7.4 (1)
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7 –7.125 (2)	7 –7.125 (2)	7–7.125 (2)	7–7.125 (2)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7.25 (1)	7.25 (1)	7.25 (1)	7.25 (1)
72-74 octane:				
Oklahoma	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375
Mid-Western (Group 3 basis)	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6 – 6.625	6 – 6.625	6 – 6.625	6 – 6.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.125– 6.25	6.125– 6.25	6.125– 6.25	6.125– 6.25
63-66 octane:				
Oklahoma	5.625– 6	5.625– 6	5.625– 6	5.625– 6
Mid-Western (Group 3 basis)	5.6 – 6	5.6 – 6	5.6 – 6	5.6 – 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625–6.25	5.625– 6.25	5.625– 6.25	5.625–6.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875	5.75 – 5.875
60 octane & below:				
Oklahoma	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625
Mid-Western (Group 3 basis)	5.2 – 5.625	5.2 – 5.625	5.2 – 5.625	5.2 – 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25 – 5.875	5.25 – 5.875	5.25 – 5.875	5.25 – 5.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.375– 5.5	5.375– 5.5	5.375– 5.5	5.375– 5.5
Motor Gasoline, 72-74 octane (ASTM)				
New York harbor	8 – 8.5	8 – 8.5	8 – 8.5	8 – 8.5
New York harbor, barges	7.9 – 8.5	7.9 – 8.5	7.9 – 8.5	7.9 – 8.5
Philadelphia district	8 – 8.25	8 – 8.25	8 – 8.25	8 – 8.25
Baltimore district	7.75 – 8.25	7.75–8.25 (2)	7.75–8.25 (2)	7.75–8.25 (2)
Motor Gasoline:				
Western Penna. Bradford-Warren:				
Min. 80 Oct. ('39 Research)	8 (2)	8 (2)	8 (2)	8 (2)
74-76 Oct. (ASTM)	7.5 (1)	7.5 (1)	7.5 (1)	7.75 (1)
74-76 Oct. (L-3)	7.5–7.75 (2)	7.5–7.75 (2)	7.5 –7.75 (2)	7.5–7.75 (2)
Western Penna. Other Districts:				
Min. 80 Oct. ('39 Research)	7.75–8 (2)	7.75–8.25 (2)	7.75–8.25 (2)	8 – 8.25 (2)
74-76 Oct. (ASTM)	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25
74-76 Oct. (L-3)	6.75 – 7	6.75 – 7	6.75 – 7	6.75 – 7

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	Nov. 24	Nov. 17
OKLAHOMA		
80 82 oct. Ethyl	6.75 – 7.25	6.75 – 7.25
72-74 oct.	6 – 6.375	6 – 6.375
63 66 oct.	5.625– 6	5.625– 6
60 oct. & below	5.25 – 5.625	5.25 – 5.625
60 62 400 e.p.	5.375 (1)	5.375 (1)
MID-WESTERN (Group 3 basis)		
80 82 oct. Ethyl	7.4 (1)	7.4 (1)
72-74 oct.	6 – 6.375	6 – 6.375
63 66 oct.	5.6 – 6	5.6 – 6
60 oct. & below	5.2 – 5.625	5.2 – 5.625
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	7 –7.125 (2)	7 –7.125 (2)
72-74 oct.	6 – 6.625	6 – 6.625
63 66 oct.	5.625– 6.25	5.625– 6.25
60 oct. & below	5.25 – 5.875	5.25 – 5.875
60 62, 400 e.p.	5.5 – 6 (1)	5.5 – 6 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	7.25 (1)	7.25 (1)
72-74 oct.	6.125– 6.25	6.125– 6.25
63 66 oct.	5.75 – 5.875	5.75 – 5.875
60 oct. & below	5.375– 5.5	5.375– 5.5
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	7.125 (2)	7.125 (2)
72 74 oct.	6.125 (2)	6.125 (2)
67-69 oct.	5.625–5.875 (2)	5.625–5.875 (2)
62 oct. & below	5.375 (2)	5.375 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	5.375–5.875 (2)	5.375–5.875 (2)
60-62, 400 e.p.	5.5 – 6 (1)	5.5 – 6 (1)

Prices Effective	Nov. 24	Nov. 17
KANSAS (For Kansas destinations only)		
80-82 oct. Ethyl	7.5 (1)	7.5 (1)
72-74 oct.	6.3 – 6.375	6.3 – 6.375
63-66 oct.	5.9 – 6	5.9 – 6
60 oct. & below	5.5 – 5.625	5.5 – 5.625
ARK. (For shipment to Ark. & La.)		
72-74 oct.	6 (1)	6 (1)
70-72 oct.	5.875 (1)	5.875 (1)
60 oct. & below	5.5 (1)	5.5 (1)
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
Min. 80 oct. ('39 research)	8 (2)	8 (2)
74-76 oct. (ASTM)	7.5 (1)	7.75 (1)
74-76 oct. (L-3)	7.5–7.75 (2)	7.5–7.75 (2)
Other districts:		
Min. 80 oct. ('39 research)	7.75–8 (2)	8 – 8.25 (2)
74-76 oct. (ASTM)	6.75 – 7.25	6.75 – 7.25
74-76 oct. (L-3)	6.75 – 7	6.75 – 7.25
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group)		
U.S. Motor: (Oct. L-3):		
72-74 oct.	8.5	8.5
67-69 oct.	7.7 – 7.75	7.7 – 7.75
Str. run gasoline, excluding Detroit shpt.	6 – 6.25	6 – 6.25
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	6.5 – 8	6.5 – 8
54-58 grav., for outside state shipment	5 – 7	5 – 7
54-58 grav., for instate shipment	5 – 6.75	5 – 6.75

Kerosine, Gas & Fuel Oils

Prices Effective	Nov. 24	Nov. 17
OKLAHOMA		
41-43 grav. w.w.	4.375– 4.75	4.375– 4.75
42-44 grav., w.w.	4.5 – 4.875	4.5 – 4.875
Range Oil	4 – 4.375	4 – 4.375
No. 1 P.W.	3.875– 4.25	3.875– 4.25
No. 1 straw	3.5 –4.25 (2)	3.5 –4.25 (2)
No. 2 straw	3.625– 4.125	3.625– 4.125
No. 3 fuel	3.5 – 3.625	3.5 – 3.625
U.G.I. Gas Oil	3.625 (1)	3.625 (1)
No. 6 fuel	$0.90 (1)	$0.90 (1)
14-16 fuel	$0.95 (2)	$0.95 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375– 4.75	4.375– 4.75
42-44 grav. w.w.	4.5 – 4.875	4.5 – 4.875
Range Oil	4 – 4.2 (2)	4 – 4.2 (2)
No. 1 p.w.	3.875– 4.125	3.875– 4.125
No. 2 straw	3.6 – 3.8	3.6 – 3.8
No. 3	3.5 – 3.7	3.5 – 3.7
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.85-$0.875 (2)	$0.85-$0.875 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.125– 4.875	4.125– 4.875
No. 1 P.W.	4.2 – 4.5 (2)	4.2 – 4.5 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	4.75 (2)	4.75 (2)
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	4.7 (1)	4.7 (1)
42-44 gravity w.w.	4.8 – 4.875	4.8 – 4.875
No. 1 p.w.	4.2 – 4.3	4.2 – 4.3
No. 6 fuel	$0.90-$0.925 (2)	$0.90-$0.925 (2)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown: bids reported in market leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	Nov. 24	Nov. 17
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only	5.125 (1)	5.125 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6.25	6.25
46 grav. w.w.	6.375 (1)	6.375 (1)
No. 1 fuel	6.125–6.25	6.125–6.25
No. 2 "	6 –6.25	6 –6.25
No. 3 "	6 –6.25 (2)	6 –6.25 (2)
36-40 gravity	6 –6.25 (2)	6 –6.25 (2)
Other districts:		
45 grav. w.w.	6.25 – 6.375	6.25 – 6.375
46 grav. w.w.	6.25 – 6.5	6.25 – 6.5
47 grav. w.w.	6.375–6.625	6.375–6.625
No. 1 fuel	5.75 – 6	5.75 – 6
No. 2 "	5.625–6.25	5.625–6.25
No. 3 "	5.375– 6	5.375– 6
36-40 grav., Pittsburgh dist. prices excluded	5.25 – 5.875	5.25 – 5.875
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.8 – 6	5.8 – 6
P.W. Distillate	5.5 – 6	5.5 – 6
No. 3 gas oil, Straw	5 – 5.8	5 – 5.8
U.G.I. gas oil	4.5–4.875 (2)	4.5–4.875 (2)
Fuel Oils (Vis. at 100).		
300-500 Vis.	4 –4.25 (2)	4 –4.25 (2)
100-300 Vis.	4.5 (1)	4.5 (1)
OHIO (S. O. Ohio quotations for statewide delivery)		
Kerosine	7	7
CALIFORNIA		
40-43 grav. w.w.	4.5 – 6	4.5 – 6
San Joaquin Valley:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.85	$0.85
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 4
Los Angeles:		
Heavy fuel	$0.75 –$0.80	$0.75 –$0.85
Light fuel	$0.80 –$0.85	$0.80 –$0.85
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 4
San Francisco:		
Heavy fuel	$0.85	$0.85
Light fuel	$0.95	$0.95
Diesel fuel	4.5	4.5
Stove dist.	5.5	5.5

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70°F

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	40.5 (1)	40.5 (1)
10 p.t.	39.5 (1)	39.5 (1)
15 p.t.	38.5 (1)	38.5 (1)
25 p.t.	33	33
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	38.5 (1)	38.5 (1)
10 p.t.	37.5 (1)	37.5 (1)
15 p.t.	36.5 (1)	36.5 (1)
25 p.t.	31	31
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25–26	25–26
600 S.R. filterable	15–16	15–16
650 S.R.	15.5–16.5	15.5–16.5
600 fl.	16–17	16–17
630 fl.	17–17.5	17–17.5

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis. Color		
60- 85—No. 2	8 – 8.5	8 – 8.5
86-110—No. 2	8.5 – 8.75	8.5 – 8.75
150—No. 3	14.5	14.5
180—No. 3	15	15
200—No. 3	15–15.5	15–15.5
250—No. 3	16.5	16.5
280—No. 3	17–17.5	17–17.5
300—No. 3	18–18.5	18–18.5

Lubricating Oils (Cont'd)

Prices Effective	Nov. 24	Nov. 17
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15–15.5 (2)	15–15.5 (2)
280—No. 5	17.5 (1)	17.5 (1)
300—No. 5	17.5–18.5	17.5–18.5

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23-23.5	23-23.5
10 to 25 p.p.	22.5-23	22.5-23
25 to 40 p.p.	23 (1)	23 (1)
150-160 vis. E	22-22.5	22-22.5
120 Vis. D:		
0 to 10 p.p.	22-22.5	22-22.5
600 S.R. Dark Green	9-9.5 (2)	9-9.5 (2)
600 S.R. Olive Green	10–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	4.5–5 (2)	4.5–5 (2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F.*)		
100 No. 1½-2½	6.5	6.5
200 No. 2-3	8.75	8.75
300 No. 2-3	9.25	9.25
500 No. 2½-3½	10	10
750 No. 3-4	10.25	10.25
1200 No. 3-4	10.375	10.375
2000 No. 4	10.5	10.5
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	8.75
300 No. 5-6	9.25	9.25
500 No. 5-6	10	10
750 No. 5-6	10.25	10.25
1200 No. 5-6	10.375	10.375
2000 No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils Vis. Color		
60-85—No. 2	9.5 (1)	9.5 (1)
86-110—No. 2	10 (1)	10 (1)
150—No. 3	15.5 (1)	15.5 (1)
180—No. 3	16 (1)	16 (1)
200—No. 3	16 (1)	16 (1)
250—No. 3	17 (1)	17 (1)
Red Oils:		
180—No. 5	16 (1)	16 (1)
200—No. 5	16 (1)	16 (1)
250—No. 5	17 (1)	17 (1)
280—No. 5	18 (1)	18 (1)
300—No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	5.125 (Sales)	5.125 (Sales)
FOB BRECKENRIDGE		
Grade 26-70	4.75 (Qtns.)	4.75 (Sales)
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	4.75 – 5.25	4.75 – 5.25

Naphtha and Solvent

Prices Effective	Nov. 24	Nov. 17
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA.		
Untreated naphtha	7 –7.25 (2)	7 –7.25 (2)
Stoddard solvent	7.25 – 7.5	7.25 – 7.5
OHIO (S. O. Ohio quotations for statewide delivery):		
V.M.&P. naphtha, D.C. naphtha, Varnelene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L., N. Y.)		
122-124 A.m.p.	6.1 (1)	6.1 – 6.25
124-126 A.m.p.	6.1 (1)	6.1 – 6.25
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-6 AMP	5.75 (1)	5.75 (1)
131-3 AMP	6 (1)	6 (1)
CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods: add 3° F. to convert into AMP.)		
Fully refined:		
122-124 (bags only)	5.9	5.9
125-127	5.9	5.9
127-129	6.15	6.15
130-132	6.85	6.85
132-134	7.1	7.1
135-137	7.85	7.85

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)

Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.125	5.375– 6.125
Cream White	4.375– 5.375	4.375– 5.375
Light Amber	3.375– 3.875	3.375– 3.875
Amber	3.125– 3.625	3.125– 3.625
Red	3 – 3.5	3 – 3.5

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline Kerosine Cents per Cwt.	Gasoline Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	36	2.376	32	2.368
Decatur, Ill.	32	2.112	31	2.294
Joliet, Ill.	36	2.376	32	2.368
Peoria, Ill.	33	2.178	31	2.294
Quincy, Ill.	31	2.046	29	2.146
Indianapolis, Ind.	38	2.508	39	2.886
Evansville, Ind.	35	2.310	37	2.738
South Bend, Ind.	44	2.904	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Grand Rapids, Mich.	55	3.630	**50	**3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	41	2.706	41	3.034
Milwaukee, Wis.	39	2.574	34.5	2.553
LaCrosse, Wis.	37	2.442	37	2.738
Minneapolis-St. Paul	37	2.442	37	2.738
Duluth, Minn.	41	2.706	41.5	3.071
Mankato, Minn.	37	2.442	37	2.738
Des Moines, Ia.	29	1.914	29	2.146
Davenport, Ia.	33	2.178	31	2.294
Mason City, Ia.	34	2.244	33.5	2.479
St. Louis, Mo.	29	1.914	26.5	1.961
Kansas City, Mo.	22	1.452	22.5	1.665
St. Joseph, Mo.	25	1.650	22.5	1.665
Fargo, N. D.	51	3.366	50.5	3.737
Huron, S. D.	43	2.828	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)—Prices Effective Nov. 24

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct (ASTM)
N. Y. Harb.	8.5 – 9	8 – 8.5	8 (1)
N. Y. Harb., barges	8.5	7.9 – 8.5	7.9 (1)
Albany	....	....	....
Philadelphia	8.1 – 8.8	....	....
Baltimore	8 – 8.7	8 – 8.25	8 –8.2 (1)
Norfolk	7.75 – 8.5	7.75 – 8.25	....
Wilmington, N. C.	7.62 – 8.5	7.5 – 8.25	7.3 –7.5 (1)
Charleston	7.5 – 7.8	7.5 – 8 (2)	7.3 –7.5 (2)
Savannah	7.6 – 7.8	7.5 (1)	6.9 –7.1 (1)
Jacksonville	7.87 – 8.2	7.75 (1)	7.6 –7.8 (2)
Miami	7.87 – 8.2	7.75-7.875 (2)	7.6 –7.8 (1)
Tampa	7.87 –8.2 (2)	7.75 (1)	7.6 –7.8 (1)
Pensacola	7.75 – 8.2	7.75 (1)	7.6 –7.8 (1)
Mobile	7.5 –7.7 (1)	....	7.1 –7.3 (1)
New Orleans	7.37 – 7.7	....	7.1 –7.3 (2)
Portland	6.75 – 7.37	6.25-6.875	....
Boston	8.3 – 9.4	8.6 (1)	....
Providence	8.2 – 9	8.5 (2)	8.5 (1)
	8.2 – 9.1	8.5 (1)	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.3 – 5.5	5.2	5.2	$1.65–1.75 (a)	$1.35 –$1.50
N. Y. Harb., barges	5.2 – 5.5	5.1	5.1	....	....
Albany	5.6	5.4	5.4	$1.95 (1)	$1.55 (1)
Philadelphia	5.4 – 5.8	5.2 – 5.25	5.2 – 5.25	$1.68	$1.35 –$1.50
Baltimore	5.4 – 5.45	5.2 – 5.25	5.2 – 5.25	$1.68 (1)	$1.35 –$1.50
Norfolk	5.3 – 5.5	5.2 – 5.25	5.2 –5.25 (2)	....	$1.35 (2)
Wilmington, N. C.	5.25 – 5.5	5.2 – 5.25	....	....	....
Charleston	5.4 – 5.5	5.2 (2)	....	....	$1.30 (2)
Savannah	5.25 – 5.5	....	....	....	$1.30 (1)
Jacksonville	5.25 – 5.5	4.75 –5 (2)	4.75 (1)	....	$1.30 (1)
Miami	5.25–5.5 (2)	....	....	....	....
Tampa	5.25 – 5.5	4.75 –5 (2)	....	....	$1.25 (1)
Pensacola	4.8 – 5 (1)	....	....	....	....
Mobile	4.75 – 5	....	....	....	....
New Orleans	4.25 – 4.625	3.875– 4 (2)	....	$1.68 (1)	$0.85 (2)
Portland	5.5	5.3	5.3 (2)	$1.95 (1)	$1.35 –$1.55
Boston	5.4	5.2	5.2 (2)	$1.65 (2)	$1.35
Providence	5.4	5.2	5.2	$1.60 –$1.65	$1.35

(a) This price is for a straight-run, low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.35 –$1.50	$2.15	5.2 –5.3 (2)	5.3 (2)
Albany	$1.55 (1)	$2.35 (1)	5.4 (2)	5.6 (1)
Philadelphia	$1.35 –$1.50	$2.15	....	....
Baltimore	$1.35 –$1.50	$2.15	5.2 (1)	5.2 (1)
Norfolk	$1.35	$2.15	5.2 (1)	5.2 (1)
Charleston	$1.30	$2.15 (2)	5.2 (1)	5.2 (1)
Savannah	$1.30 (1)	$1.99 (1)	....	....
Jacksonville	$1.30 (2)	$1.99–$2.10 (2)	....	....
Tampa	$1.25 (2)	$1.99–$2.10 (2)	....	....
New Orleans	$0.85	$1.65 (2)	4 (1)	4 (1)
Portland	$1.35 –$1.55	$2.23 –$2.25	5.3 (1)	5.4 (1)
Boston	$1.35	$2.15 –$2.18	5.2 (2)	5.3 (2)
Providence	$1.35	$2.15 –$2.18	5.2 (1)	5.3 (1)

Wax

(Melting points are AMP, 3° higher than EMP. Export prices FAS c.i. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)

Prices Effective Nov. 24

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	6–6.25 (1)	....	6–6.25 (1)
122-4 White	....	6.1 (2)	6–6.25 (2)
124-6 White	6–6.25 (2)	6.1 (2)	6–6.25 (2)
Fully Refined:			
123-5	6.25 (1)	5.6–6.45(2&a)	6.25 (1)
125-7	6.25 (1)	5.6–6.6(2&a)	6.25 (2)
128-30	6.5 (1)	5.6–7	6.5 (2)
130-32	6.75 (1)	5.85–7.25 (2)	6.5–6.75 (2)
133-5	7 (1)	6.15–7.55	7 (2)
135-7	7.25 (1)	6.4 (1)	7-7.25 (2)
108-11 White Match wax (tight bbls.)			No Price

(a) 0.4c discount generally given for slabs loose.

Naphtha

Prices Effective Nov. 24

	V.M.&P. Naphtha	Mineral Spirits
Baltimore	10–10.5 (2)	9 – 9.5
New York Harbor	10.5 (2)	9.5
Philadelphia district	10.5 (2)	9.5
Boston	11 (2)	10
Providence	11 (1)	10 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	Nov. 24	Nov. 17
375 e.p. blend, 70 oct.	6.375– 6.5	6.25 – 6.375
390 e.p. blend, 68 oct.	6.125– 6.25	6 – 6.25
390 e.p. blend, 66 oct.	5.875– 6	5.875– 6
400 e.p. blend, 65 oct. min.	5.75 – 6	5.75 – 6
U. S. Motor, under 65 octane	5.25 – 5.5	5.25 – 5.5
38-40 grav. w.w. kero., 150 fire point	4.5 – 5	4.5 – 5
41-43 grav., w.w. kero.	4.75 – 5	4.75 – 5
44-grav., w.w. kero.	5 – 5.5	5 – 5.5
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90
Cased Goods: (Per case)		
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, under 65 oct.	$1.40 –$1.50	$1.40 –$1.50
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
40-43 grav. w.w. kero., 150 fire point	$1.30 –$1.40	$1.30 –$1.40
Kero., p.w.	$1.25 –$1.35	$1.25 –$1.35

Tanker Rates

(Approximate last paid rates, cents per bbl.; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	57
Light Crude, (30 grav. or Lighter)	50
Gasoline	50
Kerosine	53
No. 2 Fuel	57

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective Nov. 24

Domestic

Motor Gasoline

Min. 80 oct. '39 Research, max. 2cc lead	6.5
60-62, Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	No Price Rep.
70 oct. unleaded "	No Price Rep.
68 oct. " "	No Price Rep.
65 oct. " "	No Price Rep.
60 oct. " "	No Price Rep.
41-43 w.w. kerosine	4 – 4.5
No. 2 fuel	4 – 4.25

Gas Oil—Less than ½ of 1% sulfur.

Below 43 diesel index	3.75 – 4.25
43-47 " "	4.125– 4.25
48-52 " "	4.125– 4.25
53-57 " "	4.25 – 4.375
58 & above diesel index	4.375– 4.5
Diesel Oil, ships' bunkers (ex-lighterage)	$1.65 –$1.80
Bunker C, " " "	$0.85 –$0.95
Bunker C, cargoes	$0.85 –$0.96

Export

Motor Gasoline

60-62 Gravity, Max. 400 e.p.

72-74 oct. leaded (ASTM)	No Price Rep.
70 oct. unleaded "	No Price Rep.
68 oct. " "	No Price Rep.
65 oct. " "	No Price Rep.
60 oct. " "	No Price Rep.
41-43 w.w. kerosine	4 – 4.5

Gas Oil—Less than ½ of 1% sulfur.

Below 43 diesel index	3.75 – 4.25
43-47 " "	4.125– 4.25
48-52 " "	4.125– 4.25
53-57 " "	4.25 – 4.375
58 & above diesel index	4.375– 4.5

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

Nov. 24

	New Steel Drums	Bulk
200 vis. D 210 brt. stock	34–35 (2)	28.8 (2)
150 vis. D 210 brt. stock 0-10 p.p.	30–31 (2)	24.8 (2)
10-25 p.p.	29.5 (1)	24.3 (1)
100 vis. D 210 brt. stock 0-10 p.p.	29.5 (1)	24.3 (1)
10-25 p.p.	29 (1)	23.8 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	22 (1)	16.8 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	Nov. 24	Nov. 17
100 No. 3	6.25–6.5 (2)	6.25–6.5 (2)
200 No. 3	7.75–8.75 (2)	7.75–8.75 (2)
300 No. 3	8.25–9.25 (2)	8.25–9.25 (2)
500 No. 3½	9.25–10.25 (2)	9.25–10.25 (2)
750 No. 4	9.75–11 (2)	9.75–11 (2)
1200 No. 4	10.25–11.5 (2)	10.25–11.5 (2)
2000 No. 4	12.5 (1)	12.5 (1)

Red Oils:

Vis. Color		
100 No. 5-6	6.5 (1)	6.5 (1)
200 No. 5-6	7.75–8.75 (2)	7.75–8.75 (2)
300 No. 5-6	8.25–9.25 (2)	8.25–9.25 (2)
500 No. 5-6	9.25–10.25 (2)	9.25–10.25 (2)
750 No. 5-6	9.75–11 (2)	9.75–11 (2)
1200 No. 5-6	10.25–11.5 (2)	10.25–11.5 (2)
2000 No. 5-6	11–12.5 (2)	11–12.5 (2)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Nov. 24, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
*Atlantic City, N. J.	9	9.5	4.5	7.9
*Newark, N. J.	9	9.5	4.5	7.9
Annapolis, Md.	9.35	9.85	5.5	9.7
Baltimore, Md.	8.75	9.25	5.5	8.7
Cumberland, Md.	10.15	10.65	5.5	10.2
Washington, D. C.	9	9.5	3.5	9.2
Danville, Va.	10.45	10.95	6.5	10.45
Norfolk, Va.	9.25	9.75	6.5	10.2
Petersburg, Va.	9.55	10.05	6.5	11.2
Richmond, Va.	9.55	10.05	6.5	11.2
Roanoke, Va.	10.75	11.25	6.5	10.7
Charleston, W. Va.	11.05	11.55	6.5	11.5
Parkersburg, W. Va.	10.35	10.85	6.5	11.2
Wheeling, W. Va.	10.35	10.85	6.5	11.8
Charlotte, N. C.	10.9	11.4	7.5	9.5
Hickory	11.45	11.95	7.5	10.5
Mt. Airy, N. C.	11.3	11.8	7.5	9.7
Raleigh, N. C.	10.65	11.15	7.5	10.5
Salisbury, N. C.	10.95	11.45	7.5	10.9
Charleston, S. C.	9.75	10.25	7.5	....
Columbia, S. C.	10.6	11.1	7.5	....
Spartanburg, S. C.	11.3	11.8	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	12.5	14
Baltimore, Md.	15	....
Washington, D. C.	15	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	7.9	7.2	7.2
Newark	7.9	7.2	7.2
Annapolis, Md.	....	7.45	....
Baltimore	7.7	7.2	7.2
Washington, D. C.	8.2	7.45	7.45
Norfolk, Va.	7.9	7	7
Petersburg	8.2	7.2	....
Richmond	8.2	7.2	7.2
Charlotte, N. C.	8.5	8.6	....
Hickory	....	8.2	....
Raleigh	9.5	8.3	....
Charleston, S. C.	....	7.2	....
Columbia	....	8.2	....
Spartanburg	....	9	....

*Effective May 20, '41, minimum retail resale price of 13c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price: Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gaso-line Taxes
New York City:			
Manhattan & Bronx	8.9	9.4	*5.5
Kings & Queens	8.9	9.4	*5.5
Richmond	8.5	9	5.5
Albany, N. Y.	8.7	9.2	5.5
Binghamton, N. Y.	9.8	10.3	5.5
Buffalo, N. Y.	9	9.5	5.5
Jamestown, N. Y.	9.2	9.7	5.5
Mt. Vernon, N. Y.	8.9	9.4	5.5
Plattsburg, N. Y.	9.8	10.3	5.5
Rochester, N. Y.	9.6	10.1	5.5
Syracuse, N. Y.	9.3	9.8	5.5
Bridgeport, Conn.	8.8	9.3	4.5
Danbury, Conn.	9.3	9.8	4.5
Hartford, Conn.	9.4	9.9	4.5
New Haven, Conn.	8.8	9.3	4.5
Bangor, Me.	9.5	10	5.5
Portland, Me.	9.1	9.6	5.5
Boston, Mass.	8.7	9.2	4.5
Concord, N. H.	10.2	10.7	5.5
Lancaster, N. H.	10.8	11.3	5.5
Manchester, N. H.	10.1	10.6	5.5
Providence, R. I.	8.8	9.3	4.5
Burlington, Vt.	9.7	10.2	5.5
Rutland, Vt.	9.8	10.3	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	11.9	13.1
†New York City	10.5	11.5
Rochester, N. Y.	12.7	13.9
Syracuse, N. Y.	13.5	....
Boston, Mass.	11.5	12.5
Hartford Conn.	13.8	14.8
Providence, R. I.	12.5	13.5

	Kero-sine Yard	Kero-sine T.W.	Mobil-fuel Diesel TC	Mobil-fuel Diesel T.W.	Mobil-heat Fuel Yard	Mobil-heat Fuel T.W.
New York:						
Manhat'n & Bronx	5.6	8	...	7.5	5.5	7.2
Kings & Queens	5.6	8	...	7.5	5.5	7.2
Richmond	5.5	8	...	7.4	5.4	7
Albany	5.8	7.8	5.5	7.5	5.6	7.3
Binghamton	7.1	9.1	...	8.9	6.9	8.4
Buffalo	6.8	8.8	6.7	8.7	6.7	8.2
Jamestown	6.9	8.9	...	8.8	6.8	8.2
Mt. Vernon	5.7	8.2	...	7.6	5.6	7.2
Plattsburg	6.3	8.3	...	8.1	6.1	7.6
Rochester	6.9	8.9	6.4	8.4	6.4	7.9
Syracuse	6.7	8.7	6.3	8.3	6.3	7.8
Conn.:						
Bridgeport	5.8	7.8	...	...	5.7	7
Danbury	6.3	8.3	...	...	6	7
Hartford	5.9	7.9	...	7.7	5.7	7.2
New Haven	5.6	7.6	...	7.5	5.5	7.1
Maine:						
Bangor	6.1	8.1	5.9	7.9	5.9	7.4
Portland	5.7	8.1	5.5	7.5	5.5	7.2
Mass.:						
Boston	5.8	8	5.6	7.6	5.6	7.2
N. H.:						
Concord	6.6	8.6	...	...	6.7	8.2
Lancaster	7.7	9.7	...	...	7.7	9.2
Manchester	6.7	9	...	...	6.4	7.9
R. I.:						
Providence	5.8	7.8	5.6	7.6	5.6	7.1
Vermont:						
Burlington	6.3	8.3	6	8	6.1	7.6
Rutland	6.5	8.5	...	8.2	6.2	7.7

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commer-cial T.C.	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa.	8.5	9.5	5.5	10.15
Pittsburgh	9	10	5.5	10.5
Allentown	9	10	5.5	10.5
Erie	9	10	5.5	10.5
Scranton	9	10	5.5	10.5
Altoona	9	10	5.5	10.5
Emporium	9	10	5.5	10.5
Indiana	9	10	5.5	10.5
Uniontown	9	10	5.5	10.5
Harrisburg	9	10	5.5	10.5
Williamsport	9	10	5.5	10.5
Dover, Del.	...	10	5.5	10.5
Wilmington, Del.	...	9.5	5.5	10
Boston, Mass.	...	9.7	4.5	8
Springfield, Mass.	...	10.6	4.5	8.9
Worcester, Mass.	...	10.3	4.5	8.5
Fall River, Mass.	...	9.8	4.5	9
Hartford, Conn.	...	10.4	4.5	7.9
New Haven, Conn.	...	9.8	4.5	9
Providence, R. I.	...	9.8	4.5	8.6
Atlantic City, N. J.	...	9.5	4.5	7.9
Camden, N. J.	...	9.5	4.5	7.9
Trenton, N. J.	...	9.5	4.5	7.9
Annapolis, Md.	...	9.85	5.5	8.7
Baltimore, Md.	...	9.25	5.5	7.7
Hagerstown, Md.	...	10.35	5.5	8.2
Richmond, Va.	...	10.05	6.5	10.2
Wilmington, N. C.	...	10.35	7.5	9.8
Brunswick, Ga.	...	10	7.5	*9
Jacksonville, Fla.	...	10	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	10.5	12
Lancaster, Pa.	11.5	13
Pittsburgh, Pa.	12.5	12.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8	7.2	7.2	4.75	3.75
Allentown, Pa.	8.5	7.5	7.5	....	....
Wilmington, Del.	8.00	7.2	7.2	....	....
Springfield, Mass.	8.9	7.6	7.6	....	....
Worcester, Mass.	8.5	7.5	7.5	....	....
Hartford, Conn.	7.9	7.2	7.2	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

Sohio X-70 Gasoline

(*Regular Grade*)

	Con-sumer T.W.	**Re-sel-lers	‡S.S.	Gaso-line Taxes	†Kero-sine T.W.
Ohio, Statewide	12	10	13.5	5.5	9
Akron	12	9.5	12	5.5	9
Cincinnati	12	9.5	12.5	5.5	9
Cleveland	12	9.5	12.5	5.5	9
Columbus	12	9.5	12.5	5.5	9
Dayton	12	9.5	12.5	5.5	9
Marietta	12	9.5	12.5	5.5	9
Portsmouth	12	9.5	12.5	5.5	9
Toledo	12	9.5	12.5	5.5	9
Youngstown	12	9.5	12.5	5.5	9

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 74 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphthas—T.W. State-wide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8	8	7.5	....
Cleveland	10	10	9.5	7.25

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky.	10	9	6.5	9
Lexington, Ky.	11	10	6.5	9
Louisville, Ky.	10.5	9.5	6.5	8.5
Paducah, Ky.	9	8.5	6.5	8.5
Jackson, Miss.	10.5	9.5	7.5	*8.5
Vicksburg, Miss.	10	9	7.5	*8
Birmingham, Ala.	10.5	9.5	*8.5	9
Mobile, Ala.	9.5	7.5	*9.5	8.5
Montgomery, Ala.	10.5	9.5	*9.5	*9
Atlanta, Ga.	11	...	7.5	*9
Augusta, Ga.	11	...	7.5	*8.5
Macon, Ga.	11	...	7.5	*9
Savannah, Ga.	10	...	7.5	*8
Jacksonville, Fla.	10	...	8.5	8
Miami, Fla.	10	...	8.5	8
Pensacola, Fla.	9.5	8.5	*9.5	8
Tampa, Fla.	10	...	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Red Crown	Dealer Stano-lind	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill.	11.6	9.6	8.5	4.5	10.3
Decatur, Ill.	10.9	8.9	8	4.5	9.5
Joliet, Ill.	11.9	9.6	8.5	4.5	10.3

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Nov. 24, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stano-lind	Gaso-line Taxes	Kero-sine T.W.
Peoria, Ill.	11.7	9.2	9.1	4.5	10.1
Quincy, Ill.	8.9	7.9	7.9	4.5	10
Indianapolis, Ind.	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind.	11.4	9.9	8.4	5.5	*9.6
South Bend, Ind.	12	10.5	10	5.5	*10.2
Detroit, Mich.	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich.	11.4	9.3	9	4.5	9.6
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis.	12.2	10.7	10.2	5.5	10.6
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul.	11.9	10.4	9.5	5.5	10.3
Duluth, Minn.	12.2	10.7	10.2	5.5	10.6
Mankato, Minn.	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia.	11.4	7.4	6.9	4.5	*9.8
Davenport, Ia.	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia.	11.7	10.2	9.7	4.5	*10.1
St. Louis, Mo.	8.9	7.1	7.2	*4.5	9.8
Kansas City, Mo.	10.4	8.9	7.9	*4.5	9.4
St. Joseph, Mo.	11.2	9.7	8.7	*4.5	9.6
Fargo, N. D.	12.9	11.4	10.5	5.5	11.3
Huron, S. D.	12.3	10.8	10.3	5.5	10.7
Wichita, Kans.	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill.	15.7	4.5
Milwaukee, Wis.	15.9	5.5
Minneapolis, Minn.	15.7	5.5
St. Louis, Mo.	15.2	*4.5
Kansas City, Mo.	14.8	*4.5
Fargo, N. D.	16.7	5.5
Huron, S. D.	16.1	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stani-sol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	13.1	5.5
Minneap'lis	14.2	15.2	13.5	5.5

Fuel Oils T. W. Chicago

	Standard Heater Oil
1-99 gals.	9
100-149 gals.	8
150 gals. & over	7.5

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals.	8.5	8.5
100-149 gals.	7.5	7.5
150-399 gals.	7.5	7.5
400 gals. & over	7	7

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals.	8	8
100-399 gals.	7	7
400-749 gals.	6	6
750 gals. & over	5.25	5.25

Stanolex Bunker C Fuel Oil

1-399 gals	6.5
400-999 gals	5.5
1000 gals. & over	4.5

Other Points:	Stanolex No. 1	Stanolex Furnace Oil
Indianapolis		
1-99 gals.	...	*8.7
100 gals. & over	...	*7.7
Detroit		
1-99 gals.	...	7.8
100 gals. & over	...	6.8
Milwaukee		
1-99 gals.	...	8.7
100 gals. & over	...	7.7
Minneapolis		
1-99 gals.	...	8.5
100 gals. & over	...	7.5
St. Louis		
1-99 gals.	8.3	7.8
100 gals. & over	7.3	6.8
Kansas City		
1-99 gals.	...	7.6
100 gals. & over	...	6.6

***Taxes:** In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax: Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.*

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W.	Dealer	Gaso-line Taxes	Kero-sine T.W.
Omaha	11.4	8.9	6.5	9.8
McCook	12	9.4	6.5	9.5
Norfolk	11.9	10.4	6.5	10.3
North Platte	11	9.9	6.5	10.7
Scottsbluff	12.4	9.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
New Orleans, La.	8.75	9.25	8.5	*9.5
Baton Rouge, La.	8.75	9.25	8.5	*9.5
Alexandria, La.	8.75	9.25	8.5	*9.5
Lafayette, La.	9	9.5	8.5	*9
Lake Charles, La.	9	9.5	8.5	*11
Shreveport, La.	8.5	9	8.5	*8
Knoxville, Tenn.	11.5	12	8.5	12.5
Memphis, Tenn.	8.75	9.25	8.5	10.5
Chattanooga, Tenn.	10.5	11	8.5	11
Nashville, Tenn.	10.5	11	8.5	10
Bristol, Tenn.	9.75	10.25	8.5	12
Little Rock, Ark.	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Re-tail	Thriftane *Tank Wagon	Thriftane Re-tail	Gaso-line Taxes
Dallas, Tex.	8.5†	11.5	7.5†	9.5	5.5
Ft. Worth, Tex.	8.5††	10.5	7.5‡	9	5.5
Houston, Tex.	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex.	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex.	7	11
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.	7	10
74 Oct. Aviation Gasoline, Clear		Tank Car
FOB Baytown, Tex.		8.5

*To all classes of dealers & consumers.
†Less 1c allowance to dealers only.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gaso-line Taxes
Dallas, Tex.	8.5*	7.5*	5.5
Ft. Worth, Tex.	8.5*	7.5*	5.5
Wichita Falls, Tex.	8.5	7.5	5.5
Amarillo, Tex.	8.5	7.5	5.5
Tyler, Tex.	8.5	7.5	5.5
El Paso, Tex.	11	10.5	5.5
San Angelo, Tex.	8.5	7.5	5.5
Waco, Tex.	8.5*	7*	5.5
Austin, Tex.	8.5	7.5	5.5
Houston, Tex.	8.5	7.5	5.5
San Antonio, Tex.	8.5	7.5	5.5
Port Arthur, Tex.	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

Continental Oil Co.

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	De-mand (*3rd Grade*)	Gaso-line Taxes	Kero-sine T.W.
Denver, Col.	10	9	5.5	11
Grand Junction, Col.	12.5	11.5	5.5	12.5
Pueblo, Col.	9.5	8.5	5.5	9.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	10.5	9.5	5.5	11.5
Billings, Mont.	11.5	10.5	6.5	12.5
Butte, Mont.	10.5	9.5	6.5	13.5
Great Falls, Mont.	10.5	9.5	6.5	12.5
Helena, Mont.	10.5	9.5	6.5	13
Salt Lake City, Utah.	13.5	12.5	5.5	14.5
Boise, Ida.	13.6	12.6	6.5	16.5
Twin Falls, Ida.	14.6	13.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	10
Roswell, N. M.	8.5	7.5	*7	8.5
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	8.5	5.75	*7	6.5
Little Rock, Ark.	9.25	6.15	8	8
Texarkana, Ark.	8.5	6.5	*5.5	6
Muskogee, Okla.	8.5	7.5	7	8
Oklahoma City, Okla.	8	7.5	7	8
Tulsa, Okla.	8	7.5	7	8

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state tax applies within city limits of Ft. Smith, Ark.
†To consumers & dealers.
Discounts: To dealers only—Cheyenne 1.5c on Bronz-z-z & Demand.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Re-tail	Flight Posted Net Tank Truck	Flight Re-tail	Flight Gaso-line Taxes
San Francisco, Cal.	10	14	9	12	4.5
Los Angeles, Cal.	9.5	13.5	8.5	11.5	4.5
Fresno, Cal.	11	15	10	13	4.5
Phoenix, Ariz.	12	16	10	13	6.5
Reno, Nev.	12	16	11	14	5.5
Portland, Ore.	10.5	14.5	9.5	12.5	6.5
Seattle, Wash.	10.5	14.5	9.5	12.5	6.5
Spokane, Wash.	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash.	10.5	14.5	9.5	12.5	6.5

	Std. Aviation 73 Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	12.5	4.5	11.5
Los Angeles, Cal.	12	4.5	10
Fresno, Cal.	13.5	4.5	12.5
Phoenix, Ariz.	14.5	6.5	12.5
Reno, Nev.	14.5	5.5	13.5
Portland, Ore.	13	6.5	13.5
Seattle, Wash.	13	6.5	13.5
Spokane, Wash.	16	6.5	16.5
Tacoma, Wash.	13	6.5	13.5

Discounts:
To Resale & Commercial Consumers, tank car deliveries 0.25c off posted net tank truck price. Deliveries less than 40 gallons to commercial consumer trade, 4c above posted net tank truck price for Standard and Standard Aviation, 3c above for Flight, except single deliveries to Marine trade only which are billed at posted net tank truck price.
Kerosine—Tank car and truck & trailer deliveries, 3c off posted tank truck price; plant stem deliveries to jobbers, 2.5c off posted tank truck price.

Canada

PRICES OF IMPERIAL OIL, LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kero-sine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	21	10	23
Winnipeg, Man.	20.5	10	22.5
Regina, Sask.	18	10	20
Saskatoon, Sask.	20.8	10	22.8
Edmonton, Alta.	18.9	10	20.9
Calgary, Alta.	16	10	18
Vancouver, B. C.	15	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	16.5	13	19
Halifax, N. S.	16.5	13	19

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

Tank Wagon Price Changes

(These changes have been made in price tables)

Atlantic Refining—Kerosine:
Fall River up 0.4c Nov. 18.

S. O. Indiana—Red Crown Gasoline:
Grand Rapids dealer cut 0.6c Nov. 15. St. Louis t. w. & dealer cut 1.4c Nov. 13.

S. O. Indiana—Stanolind Gasoline:
Grand Rapids dealer cut 0.4c Nov. 15. St. Louis dealer cut 1.4c Nov. 13.

S. O. Nebraska—Red Crown Gasoline:
North Platte t. w. cut 1.3c Nov. 14.

S. O. Louisiana—Kerosine:
New Orleans up 0.5c Nov. 19.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1.8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 2/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Aug. 23, '41)
Bradford-Allegany $2.75
Southwest Penna. $2.40
Eureka (West Va.) $2.34
Corning, O. (May 27, '41) $1.31

Posted by The Pennzoil Co. (Aug. 23, '41)
National Transit $2.68*

Posted by Valvoline Pipe Lines (Aug. 23, '41)
Bradford (Elk & McKean Counties, Pa.) $2.75
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $2.68
Alleghany, Beaver, Washington & Greene Counties, Pa. $2.40
West Virginia $2.34
Southeastern Ohio $2.30

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.63 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)
Midland, Midland County $1.44
Sherman $1.39

Posted by Simrall Corp. (May 27, '41)
Greendale, Porter, Vernon, Crystal & Wise $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.42
Freeman, Redding, Lincoln & Winterfield $1.39
West Branch-Arenac $1.24
Hamilton-Grout $1.29

Posted by Sohio Corp. (Mich. Div.)
Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) $1.45
Trenton crude, Monroe Co. (June 2, '41) $1.39

Posted by Bay Pipe Line Corp. (May 27, '41)
Saginaw & Wise $1.44
Buckeye, Bentley & Kawkawlin $1.42
Clare $1.11
Adams (June 1, '41) $1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)
Illinois Basin, including Griffin pool $1.37
Carmi Storms, Ill. area $1.32
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)
Illinois Basin $1.37
Eastern Ill. & Western Ind. 1.22

Posted by Carter Oil Co. (May 21, '41)
Louden, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)
Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.
Somerset oil in Ash. Lines, Ky.: (June 19, '41)
Big Sandy River $1.38
Kentucky River $1.43

Posted by Owensboro-Ashland Co.
Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (Sept. 1, '41)
Lima, O. $1.25
Cleveland, Lodi & Chatham (O.) areas $1.30

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3	Schedule No. 4
Below 21	$0.85	$0.75	$0.70	$0.78
21-21.9	.87	.78	.73	.80
22-22.9	.89	.81	.76	.82
23-23.9	.91	.84	.79	.84
24-24.9	.93	.87	.82	.86
25-25.9	.95	.90	.85	.88
26-26.9	.97	.93	.88	.90
27-27.9	.99	.96	.91	.92
28-28.9	1.01	.99	.94	.94
29-29.9	1.03	1.02	.97	.96
30-30.9	1.05	1.05	1.00	.98
31-31.9	1.07	1.07	1.02	1.00
32-32.9	1.09	1.09	1.04	1.02
33-33.9	1.11	1.11	1.06	1.04
34-34.9	1.13	1.13	1.08	1.06
35-35.9	1.15	1.15	1.10	1.08
36-36.9	1.17	1.17	1.12	1.10
37-37.9	1.19	1.19	1.14	1.12
38-38.9	1.21	1.21	1.16	1.14
39-39.9	1.23	1.23	1.18	1.16
40 & above	1.25	1.25	1.20	1.18

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, '41 in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** May 19, '41 in Okla. & Kans. (exclusive of Carter Co., Okla.) **Magnolia** May 21, '41 in Okla.

No. 3: **Shell** May 19, '41 in Carter Co., Okla.

No. 4: **Stanolind** Nov. 11, '41 in N. Tex. **Texaco** Nov. 13, '41 in N. & N. Central Tex. beginning with 28-28.9. **Sinclair-Prairie** Nov. 11, '41 in N. Central Tex. **Magnolia** Nov. 11, '41 in N. & N. Central Tex. **Continental** Nov. 11, '41 in N. Tex. **Sinclair-Prairie, Magnolia,** and **Continental** schedules begin with Below 29 at $0.91.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.

(May 21, '41, except Panhandle, Tex. July 9, '41)

Gravity	Refugio	Texas Gulf Coast	Mirando	Anahuac	Dickinson	East Central Texas	West Central Texas	Panhandle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	....	....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	....	....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	....	....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	....	....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	....	....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	....	....	.83	.80	.90
25 & above	....	....	....	....	....	....	....	....	....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.88	.85	.82	....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.90	.87	.84	....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.92	.89	.86	....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.94	.91	.88	....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.96	.93	.90	....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	.98	.95	.92	....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.00	.97	.94	....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.02	.99	.96	....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.04	1.01	.98	....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.06	1.03	1.00	....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.08	1.05	1.02	....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.10	1.07	1.04	....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.12	1.09	1.06	....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.14	1.11	1.08	....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.16	1.15	1.10	....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.18	1.15	1.12	....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gillock, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79

East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14

Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—(July 9, '41)—Same as Humble except Magnolia begins with Below 29 at $0.91.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos.—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.80 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.
Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.
West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.
Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

East Texas—(May 21, '41) $1.25
Long Lake, Texas—(May 21, '41) 1.23

STANOLIND OIL PURCHASING CO

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

E. Texas $1.25
Satsuma & Tomball, Tex. $1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble Panhandle except Stanolind begins with Below 26 at $0.82.

THE TEXAS CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humbe except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas $1.25
Darst Creek, Tex. 1.14
Conroe, Tex $1.43
Hockley & Cochran Cos., Tex ..... .87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.86.

East Texas $1.25
Livingston field, Polk Co., Tex. 1.25
Pecos Co., Tex., except Yates Shallow pool $0.95
Pecos Co., Yates Shallow pool ..... .82

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex.—(July 1, '41)—Same as Humble.
Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35.
Eddy Co., N. M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S. O. California, May 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Waco	Colea Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	1.23	1.28	1.23	1.07	1.14	1.17	....	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills			....	....	....	....	1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9 $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	De Soto, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	.88	....	.98	....
23-23.9	.74	....	.86	....	.96	....
22-22.9	.72	....	.84	....	.94	....
21-21.9	.70	....	.82	....	.92	....
Below 21	.68	....	.80	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

De Soto schedule includes Sabine, Fouke, Homer, Miller Co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; Anse La Butte (Aug. 1, '41); Caddo (Oct. 15, 1941).

Bunkie schedule includes Eola, Olla, & South Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate (Sept. 1, '41) 1.40
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle, La. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.

Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)

Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18
Ritchie, La. (Sept. 1, '41) 1.08

Abbeville, La.

Below 36 $1.07	37-37.9 $1.11	39-39.9 $1.15
36-36.9 1.09	38-38.9 1.13	40 & above 1.17

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (July 16, '41)

(Prices FOB producer's tankage)

33-33.9 $1.35	44-44.9 $1.57	55-55.9 $1.79
34-34.9 1.37	45-45.9 1.59	56-56.9 1.81
35-35.9 1.39	46-46.9 1.61	57-57.9 1.83
36-36.9 1.41	47-47.9 1.63	58-58.9 1.85
37-37.9 1.43	48-48.9 1.65	59-59.9 1.87
38-38.9 1.45	49-49.9 1.67	60-60.9 1.89
39-39.9 1.47	50-50.9 1.69	61-61.9 1.91
40-40.9 1.49	51-51.9 1.71	62-62.9 1.93
41-41.9 1.51	52-52.9 1.73	63-63.9 1.95
42-42.9 1.53	53-53.9 1.75	64 & over 1.97
43-43.9 1.55	54-54.9 1.77	

Absorption Gasoline (July 16, '41)

90% Rec., 20 lb. Reid v.p. $2.28
90% Rec. 17 lb. Reid v.p. 2.44

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Iles, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)

Elk Basin, Wyo. $1.00
Grass Creek, Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)
Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Canon City & Florence, Col.	$1.05	Big Muddy Wyo., (May 30, '41)	$1.08
Cat Creek, Mont.	1.15	Lance Creek, Wyo., (July 1, '41)	$1.12

Posted by Independent Pipe Line Co. (Aug. 1, '41)

Falls City, Neb., field price $0.90
Falls City, Neb., loaded in tank cars 0.95
Shubert, Neb., loaded in tank cars 0.97

SOUTHEASTERN FIELDS

Posted by Allied Pipe Line Corp. (Oct. 16, '41)
Tinsley (Miss.) Crude

24-24.9	$0.745	32-32.9	$0.905
25-25.9	.765	33-33.9	.925
26-26.9	.785	34-34.9	.945
27-27.9	.805	35-35.9	.965
28-28.9	.825	36-36.9	.985
29-29.9	.845	37-37.9	1.005
30-30.9	.865	38-38.9	1.025
31-31.9	.885	39-39.9	1.045
		40 & above	1.065

CLASSIFIED

Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

Situation Open

Designers for oil refinery piping, also structural and concrete. Must be thoroughly experienced this class of work. State fully first letter salary desired, complete detail of your experience, age and when services available. Arthur G. McKee & Company, 2300 Chester Avenue, Cleveland, Ohio.

Lubricating Oil Salesman, must be acquainted with and thoroughly experienced in selling tank car buyers in middle west; submit references, full details past experience, age and when services available; good opportunity with large established refiner for properly qualified man. Box No. 997.

Salesmen:

East of Mississippi River to sell new degummed castor process lubricating lines to automotive, mill supply, hardware and plumbing jobbers and to industry direct. Lines include motor oils, grease, core oils, cutting oils, drawing oils, etc., and other branded lines for the resale trade. Territories large potential — products outstanding in proven ability. Advance expenses, commission or salary if you qualify. You should have a trade following and a good sales record.

Write Box No. 992.

Positions Wanted

Experienced sales executive with over twenty years successful marketing record. Thoroughly schooled in lubricating engineering and light oil sales also has installed and managed tire, battery and accessory department. Will go to any part of the country. Box No. 996.

Sales Executive, 37, technical education, with eleven years major oil company and three years manufacturing experience. Refinery trained. Successful record as Junior Industrial Engineer, Petroleum Salesman embracing retail, wholesale, industrial, fleet, contractor, and asphalt accounts, Lubrication Engineer, and Sales Manager. Capable of assuming active charge of entire marketing operation. Desire connection as jobber, partner, distributor, or executive position on salary plus commission. Box No. 998.

Petroleum Chemist, Podbielniak operator, M. S. degree, six years experience, thorough knowledge petroleum refining, wishes position in petroleum work. Please reply, **Box No. 984.**

For Sale

Lubricating oil and grease business, made 40% on selling price first nine months this year. Will take $50,000 cash to handle. No indebtedness. 10-year established business. Box No. 987.

Double unit Bulk pump in good condition. Capacity 100 gals. Per Min., 5 H.P. Motor complete with loading valves and other necessary valves also 1.50 ft. 2" pipe. Will sell reasonable. Address B. B. Horst, Hagerstown, Md., R 4.

UNITED AMERICAN EXPORT CORPORATION FOR MINERAL OIL
527 Fifth Avenue, New York, N. Y.,
Tel: MU 2-3290

offers for sale, available for immediate shipment:

oil, produced and refined by major oil companies in the United States.

stored at HARRIS WAREHOUSES, Inc., New York:

295 drums of 100% Pennsylvania Bright Stock

105 barrels of Solvent Extr. Coastal Oil, SAE 40, 50, 60

668 drums of Hydraulic Gear Oil, V.I. 140, Pour Point minus 40

600 cases of Hydraulic Gear Oil, each case consisting of 2 5-gal. cans

stored at Newark Tidewater Terminals, Newark, N. J.

400 drums good quality of Pale Motor Oil, SAE 20, 30, 40

stored at New York Oil Co., Elizabeth, N. J.

225 drums of Solvent Extracted Coastal Oil, SAE 20, 30, 40

steel drums with a capacity of 55 gallons, wooden barrels of 50/53 gallons.

Classified Rates

"For Sale," "Wanted to buy," "Help Wanted," "Business Opportunities," "Miscellaneous" classifications, set in type this size without border—10 cents a word. Minimum charge, $3.00 per insertion.

"Position Wanted"—5 cents a word Minimum charge $1.00 per insertion.

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3,000 to 3,500-gallon Semi-trailer with one to three compartments. Must be in good condition. Box No. 986.

Wanted 3,000 to 3,600 gallon transport; preferably 5 to 10 compartments. Box No. 995.

Business Opportunities

Established West-Coast marketer now selling legitimate refiners, compounders, blenders and jobbers, wants reputable quality line of Mid-Continent bright stocks, neutrals, trade-marked oils and greases on exclusive basis. Box No. 988.

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Attorney-at-Law
Patent and Trade Mark Practice Exclusively
511 Eleventh Street, N. W.
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Petroleum and Gas Engineer
Design Construction Reports
Suite 1909,
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1936-42 Fifth Ave., Pittsburgh, Pa.

ANTI-KNOCK VALUES DETERMINATIONS
The Gray Industrial Laboratories
Chemists and Engineers
Specialists on Petroleum Products
961-976 Frelinghuysen Ave.
NEWARK, N. J.
Telephone Bigelow 3-4020

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Equipped For All Known Tests & Research in Petroleum Products
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Standard Steel Works
Sun Oil Co.

Texaco Development Corp.
Timken Detroit Axle Co.
Tokheim Oil Tank Co.

Universal Oil Products Co.
U. S. Industrial Chemical Co.

Viking Pump Co.

Westinghouse Electric & Mfg. Co.
Witte Engine Works

· PERSONALS ·

The current issue of *The Empire*, house organ of Cities Service Oil Co., announces the appointment of **J. C. Chatfield,** Bartlesville, Okla., as its new editor. The job of editor is not a new one for "Chat", since he held down one of the editorships on NPN before he went with Indian Territory Illuminating Oil Co. a year and a half ago. He became a Cities Service man when that company acquired I. T. I. O. recently.

* * *

W. G. Skelly, Tulsa, president of Skelly Oil Co., has been named general chairman in charge of Tulsa's campaign for a $3,833,000 civic improvement bond issue up for vote Dec. 2. **Russell Cobb,** oil man and member of the city commission, is also actively pushing the bond issue.

* * *

L. Donald MacKay, Burlington, Vt., formerly with Shell as assistant to vice-president and treasurer, and later as division manager, was recently appointed to the fuel section, division of accounting analysis and review, Office of Price Administration. Prior to his connection with Shell, Mr. MacKay was connected with New York Standard.

* * *

Jacob France, president of Mid-Continent Petroleum Corp., has announced the promotion of **H. W. Roe** to office of general traffic manager. The Tulsan went to work for what was then the old Cosden & Co. 28 years ago and has been employed by Mid-Continent or its predecessor companies since.

L. W. Witte, 24-year man, will step up from assistant traffic manager to position of assistant general traffic manager. **H. C. Lechner,** chief rate clerk for the department, will become assistant traffic manager.

* * *

J. A. LaFortune, Tulsa, vice-president of Warren Petroleum Corp., has been named to the board of lay trustees of Notre Dame University. His appointment is the fourth to be announced from Notre Dame's Alumni.

The Warren executive completed a two-year course in advertising and commerce at Notre Dame and started his business career with Standard Oil Co. of Indiana. It was interrupted by naval aviation service during the World War, after which he took a job with NPN. Later he was secretary of the Mid-Continent Oil & Gas Assn. He joined the Warren group in 1924; was made vice-president in 1929.

* * *

F. H. Marling, Chicago, advertising manager for Pure, has just completed some extra curricular work with 15 other advertising experts in selecting the finest outdoor advertising art for the year 1941.

* * *

Walter R. Ray, New York, president of Triplex Oil Refining Co., has announced the appointment of **A. W. Crittenden** as chemical engineer with headquarters at the company's Long Island, N. Y., refinery. Graduate of Carnegie Institute of Technology and member of the Society of Automotive Engineers, Mr. Crittenden was formerly chief chemist for Freedom Oil Co.

J. E. Corker, for 23 years with Packard Motor Car Co. of New York, has been named general sales manager of Triplex and **Earl M. Simonds** has been appointed manager for the company's New England district, with headquarters in Somerville, Mass.

* * *

On their way back from the American Petroleum Institute meeting at San Francisco, **Mr. and Mrs. E. A. Holbein,** New York City, visited New Orleans and the Carolinas, stopping for a visit with their son who is in Army maneuvers. Mr. Holbein is vice-president of New Jersey Standard.

* * *

Convention of the Oklahoma Baptist General Assembly in Oklahoma City brought several prominent oil men to the convention city.

Robert S. Kerr, Oklahoma City producer, president of the Kansas-Oklahoma Division of the Mid-Continent Oil & Gas Assn. and candidate for Oklahoma's governorship, reported on his committee's progress in construction of a new Children's Home near Oklahoma City supported by the Baptists.

Following him on the evening program was **Dr. H. G. Bennett** of Stillwater, president of Oklahoma Agricultural and Mechanical College, known for his interest in the college's school of petroleum engineering and also mentioned as a "potential" gubernatorial candidate.

W. R. Wallace, counsel for Magnolia Petroleum Co. in Oklahoma City and president of the Oklahoma Baptist Brotherhood, was active in the convention.

* * *

Alex J. Groesbeck was elected president and chairman of the board; **Charles E. Feinberg** was elected vice-president; and **David H. J. Feinberg** was elected secretary and treasurer of the Argo Oil Corp., Detroit, Mich., at a recent meeting of the board of directors.

* * *

Frank C. Smith, president of the Houston Natural Gas Corp., has been named chairman of the board of directors of Texas College of Arts and Industries at Kingsville. He has been a member of the board since January, 1939.

* * *

William E. Dashem has joined the chemistry laboratory staff of the Harry R. Lewis Co., petroleum industry consultants, Warren, Pa.

* * *

When **1st Lt. Val A. Gates** returns to his post in Washington, D. C., from Alaska, he'll be an expert on effect of cold temperatures on fuels and lubricants. On the "warm side," **1st Lt. John C. Cramer,** who recently returned from Panama, is equally adept in speaking about the effects of high temperatures and humidity on fuels and lubricants. Both of these men are members of U. S. Army's Ordnance Department's Fuels and Lubricants Unit. Lieutenant Gates formerly worked for Shell and Lieutenant Cramer for Jersey Standard.

Many New Developments Shown in The California Refining Industry

By GEORGE B. MURPHY, Technical Editor, NPN

LOS ANGELES, Nov. 14.—California refiners again had the opportunity of demonstrating to easterners that theirs is a self-contained industry providing products of the highest quality from aviation fuel down to asphalt and coke residuum. The API meeting, with a registration of 3075 oil men, afforded many busy executives and technicians from other parts of the country, the opportunity of comparing notes with their western associates and inspecting refinery operations.

In talking with leading technologists and executives and again visiting some of their larger refineries upon an inspection trip, one must be impressed by the recent installations and the construction projects under way for aviation fuels and lubricants to be used for national defense. The refinery areas in the neighborhood of San Francisco and Los Angeles will do their part in supplying the necessary raw materials, new processes and alert, hard working personnel for this purpose.

One technical executive in San Francisco stated that among the projects that his company was concentrating upon were the manufacture of 100-octane aviation fuel and higher quality lubricants for mechanized army and navy equipment. In connection with processes for high octane fuels, he stated that alkylation was being used for blending agents and catalytic cracking planned for base stocks. Polymerization of only the propylene from cracking still gases was being utilized for motor fuel, since the butylenes were required for other purposes. Compounded lubricating oils with additives for high speed diesel engines are being distributed by this company on a world wide basis and their output is greater than all other U.S.A. refiners combined. He mentioned the newer processes of hydroforming, polyforming, solvent refining, solvent dewaxing and catalysis as some methods now being utilized in California.

Another technical executive in San Francisco spoke of explosive chemicals, alkylation, isomerization, and other processes that his company was contributing to national defense. He mentioned asphalt manufacture as a technical California development. He felt that the base stocks for 100-octane number aviation fuel was no problem in California since they were supplied with a large barrelage of natural and straight run gasoline having an octane number averaging 75. The necessary iso-paraffins for blending agents are being provided by fractionation, which may be augmented by installation of low cost plant for the isomerization of normal butane, pentane, and hexane.

The executive of another major company pointed to the new high melting wax being manufactured in one of his refineries by a company developed process. The product has a melting point of 150 to 160°F obtained through steps of solvent dewaxing, wax deoiling and contact fine clay treating. Another plant is being installed for this purpose, utilizing the new electrical dewaxing process. This company is also utilizing the process of cracking through a heavy residuum followed by coking, and then hydroforming the cracked gasoline production.

A municipal power and water engineer spoke of a 6500-KW electrical generation plant with steam at 900 lbs. being erected near Los Angeles and of power plants in the San Francisco area located next to refineries to supply electric power and steam in return for fuel.

One of the major oil companies displayed a refinery with processes for all refined products. Their construction and operating controls throughout this plant were in such good order that no damage or lost time resulted from the earthquake which struck that area a few hours before.

This complete refinery charging crudes with an average of 26° API covered approximately 8 acres and employed 13 men per 1000 barrels charge per day. New processes for cracking and treating are utilized. The spent acid from alkylation is used for treating and the sludge then neutralized for refinery fuel. The lubricants are manufactured by normal processes and blended with Mid-Continent and Pennsylvania grades, to meet market requirements. Regular grade gasoline averages 75-octane (A.S.T.M.). Fuel oil is stored in concrete lined sunken tanks with wooden roofs and have a minimum capacity of 1,250,000 barrels. Hortonspheres are used for storage of light distillates up to 35 lbs. RVP. The gas plant fractionates out isobutane and isopentane. Hydrogen sulphide is eliminated as a nuisance by combustion. Lubricating oils are finished by the contact clay process while dewaxing is not necessary due to the naphthenic nature of the charge. Asphalts, to meet all market requirements, are produced by distillation and air blowing, and shipped in steel or wooden barrels.

In general, the outstanding refinery processes observed were wax precipitation and purification and the 100-octane gasoline plants where availability of high octane base stocks and isobutane was not the problem as it is in other parts of the country.

California refiners during and after the API meeting in San Francisco again had the opportunity of displaying to their eastern conferees that their research and development departments were keeping abreast in the installation of new processes for high quality products from petroleum. For example, one plant visited was producing a 93 octane alkylate which when blended with 18% isopentane and 38% of 73 octane natural provided a 100 octane leaded product, meeting all army and navy specifications.

Chemical Composition is the Guide To the Perfect Anti-Knock Fuel

WITH the objective of developing the chemically ideal motor fuel, which would provide the maximum anti-knock performance throughout the entire speed range of an automobile, a research project was started by the Pure Oil Co. in 1938. A progress report upon this work was presented at the A.P.I. refining session Nov. 7, under the title, "Improved Motor Fuels through Selective Blending", the authors being C. R. Wagner, W. B. Ross and L. M. Henderson of the Pure Oil Co., and T. H. Risk of the Ethyl Gasoline Corp.

As a result of testing hundreds of gasolines and synthetic fuel mixtures, by the borderline road knock testing methods, the present indications are that this fuel should consist of a blend of low boiling olefins and high boiling paraffins, aromatics or naphthenes.

Mr. Wagner introduced his report by stating that he felt the subject had so far been covered only in a preliminary manner and that considerably more work would be required to draw definite conclusions upon the chemical influence of certain compounds on the anti-knock properties of gasoline. He stated, however, that he felt that a valuable start had been made and that results to date indicate that further research upon the subject is justified.

While all the data collected could not be presented in the report, the test work was divided and reported in the following four parts:

1. A summary of commercial gasolines, to determine whether they satisfied the definition of an "ideal" fuel, and a cursory investigation of methods which might be employed to improve these fuels.
2. A study of the road anti-knock performance of special blends which possibly may be used as motor fuels of the future, and the ability of such fuels to respond satisfactorily to additions of tetraethyl lead.
3. A study of the economic possibilities of manufacturing any of the improved fuels which the investigations under (1) and (2) have indicated to be desirable from a purely technical point of view.
4. The possibility of evaluating fuels, and of correlating road with laboratory results, as indicated by the fuels tested in these experiments.

Part 1 showed as a generality that straight-run gasolines did not knock at high speeds, while highly cracked gasolines did not knock at low speeds. The average housebrand, as shown on Fig. 3, felt between the two types, which were therefore selected as the reference fuels, since a blend with the best quality of each would make the "ideal" fuel.

Part 2 illustrates such a fuel, which was prepared by blending selected stocks, and it is indicated (See Fig. 7)

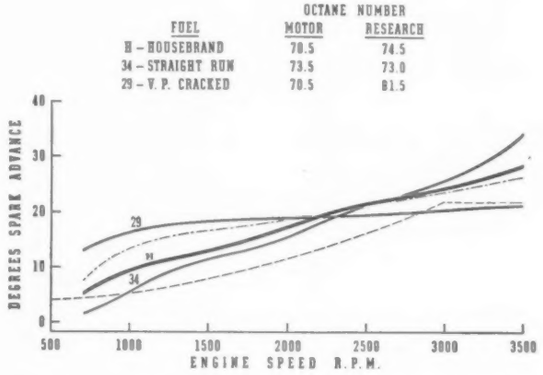

Fig. 3. Borderline knock-curves—comparision: typical housebrand gasoline, straight-run gasoline, and vapor-phase cracked gasoline

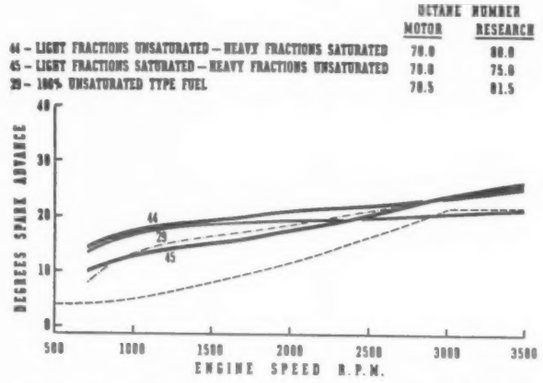
OCTANE NUMBER
MOTOR
RESEARCH
44 – LIGHT FRACTIONS UNSATURATED – HEAVY FRACTIONS SATURATED 70.0 88.0
45 – LIGHT FRACTIONS SATURATED – HEAVY FRACTIONS UNSATURATED 70.0 75.0
29 – 100% UNSATURATED TYPE FUEL 70.5 81.5
DEGREES SPARK ADVANCE
ENGINE SPEED R.P.M.

Fig. 7—Borderline knock curves—effect of selective blending

that a gasoline in which the volatile fractions are comprised largely of high octane olefinic material and the heavy fractions are comprised largely of saturated hydrocarbons most nearly approaches the definition of an "ideal" fuel.

In an effort to prepare a fuel that might meet any requirement of the future, synthetic blends were prepared in the development work of the Pure Oil Co. as listed in Table 1.

These fuels were rated clear, and with the additions of tetraethyl lead, in an L-head and in a valve-in-head engine. The cars with these engines were selected because it was known that, if a car would satisfy the high speed anti-knock requirements of an L-head engine and the low speed anti-knock requirements of a valve-in-head engine, it was likely to be satisfactory in all engines.

The borderline curves of the fuels shown in Fig. 12 illustrate the possibility of selective blending, i.e. using unsaturates in the light ends and saturated hydrocarbons in the heavy ends. Good overall road anti-knock per-

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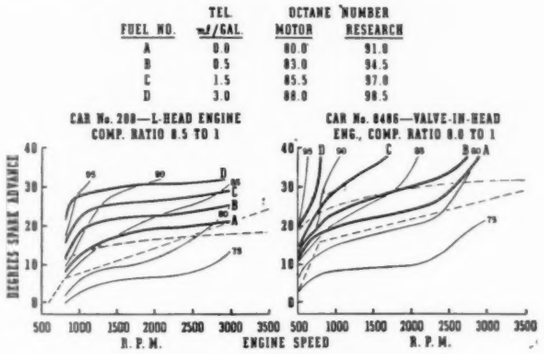

FUEL NO. | TEL. ml/GAL. | OCTANE NUMBER MOTOR | RESEARCH
A 0.0 80.0 91.0
B 0.5 83.0 94.5
C 1.5 85.5 97.0
D 3.0 88.0 98.5
CAR No. 208—L-HEAD ENGINE COMP. RATIO 8.5 TO 1
CAR No. 8486—VALVE-IN-HEAD ENG., COMP. RATIO 8.0 TO 1
DEGREES SPARK ADVANCE
R. P. M.
ENGINE SPEED
R. P. M.

Fig. 12. Borderline knock curves—N-13: 50% vapor-phase cracked, initial boiling point to 240° F; 20% heavy alkylate; 15% naphthenic heavy straight-run; 15% reference fuel F-3

formance and lead susceptibility resulted at all speeds with this fuel, it was reported.

The effect of chemical composition of the high boiling fractions on lead susceptibility was illustrated in three curves (not shown) where fuels E-1, E-2 and E-3 were tested. They showed that paraffinic material is preferable as a heavy blending agent but that either aromatic material or naphthenic material would be a satisfactory substitute in the order named.

The differences between these 3 types of high-boiling blending materials are more apparent if evaluated in terms of their relative effect on the road lead susceptibility of the blends. The fuel containing the heavy paraffinic material has the best road lead susceptibility in both the low and the high speed range.

The effect on the low speed lead susceptibility is shown in Figs. 16 and 17, where the substitution of 10% heavy alkylate for aromatics not only reduced the tendency of this fuel to knock at high speeds but also improved the lead susceptibility throughout the entire speed range.

Part 3 led to the conclusion that substitution of high boiling paraffinic aromatic, or naphthenic compounds for olefinic types in a cracked gasoline or of light olefins in a straight-run fuel may not be feasible to the refiner from either an operating or economic standpoint.

Therefore, the two fuels E-5 and E-6 as shown in Table 1, were prepared to take into consideration refinery economics. The borderline curves of these two fuels, E-5 as a special blend and E-6 as the fuel in present commercial production, are shown in Figs. 18 and 19. The report stated:

"A comparison between the road anti-knock performance, and especially the road lead susceptibility, of these fuels indicates that a reasonable increase in the cost of production could well be tolerated to produce a fuel such as E-5. When we consider that this represents the first attempt to use this information in connection with the possible commercial manufacture of fuels, it is highly probable that future research would give even better results."

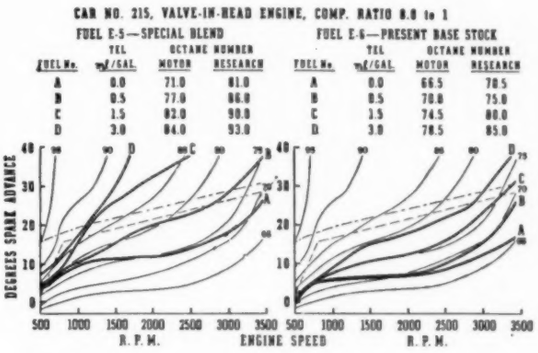

CAR NO. 215, VALVE-IN-HEAD ENGINE, COMP. RATIO 8.0 to 1
FUEL E-5—SPECIAL BLEND
FUEL E-6—PRESENT BASE STOCK
FUEL No. | TEL ml/GAL. | OCTANE NUMBER MOTOR | RESEARCH
A 0.0 71.0 81.0 | A 0.0 66.5 70.5
B 0.5 77.0 86.0 | B 0.5 70.0 75.0
C 1.5 82.0 90.0 | C 1.5 74.5 80.0
D 3.0 84.0 93.0 | D 3.0 78.5 85.0
DEGREES SPARK ADVANCE
R. P. M.
ENGINE SPEED
R. P. M.

Fig. 18. Borderline knock curves—comparison: commercially possible special blend, and present commercial base knock

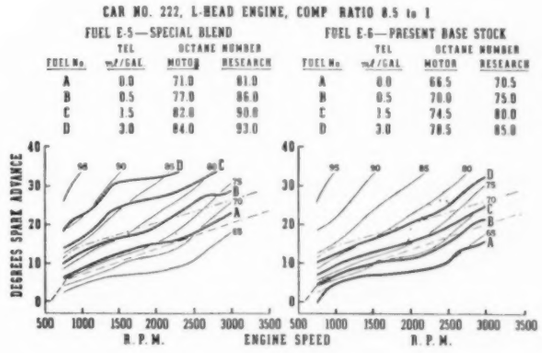

CAR NO. 222, L-HEAD ENGINE, COMP RATIO 8.5 to 1
FUEL E-5—SPECIAL BLEND
FUEL E-6—PRESENT BASE STOCK
FUEL No. | TEL ml/GAL. | OCTANE NUMBER MOTOR | RESEARCH
A 0.0 71.0 81.0 | A 0.0 66.5 70.5
B 0.5 77.0 86.0 | B 0.5 70.0 75.0
C 1.5 82.0 90.0 | C 1.5 74.5 80.0
D 3.0 84.0 93.0 | D 3.0 78.5 85.0
DEGREES SPARK ADVANCE
R. P. M.
ENGINE SPEED
R. P. M.

Fig. 19. Borderline knock curves—comparison: commercially possible special blend, and present commercial base stock

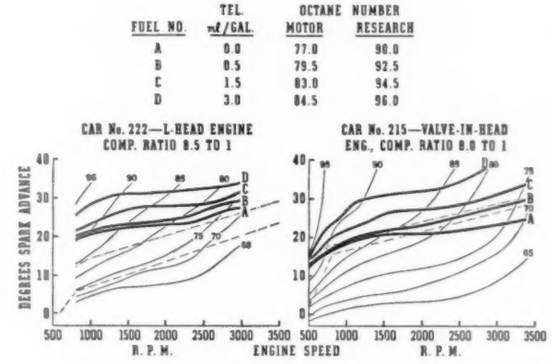

FUEL NO. | TEL. ml/GAL. | OCTANE NUMBER MOTOR | RESEARCH
A 0.0 77.0 90.0
B 0.5 79.5 92.5
C 1.5 83.0 94.5
D 3.0 84.5 96.0
CAR No. 222—L-HEAD ENGINE COMP. RATIO 8.5 TO 1
CAR No. 215—VALVE-IN-HEAD ENG., COMP. RATIO 8.0 TO 1
DEGREES SPARK ADVANCE
R. P. M.
ENGINE SPEED
R. P. M.

Fig. 16. Borderline knock curves—fuel E-15: 100% catalytically cracked gasoline

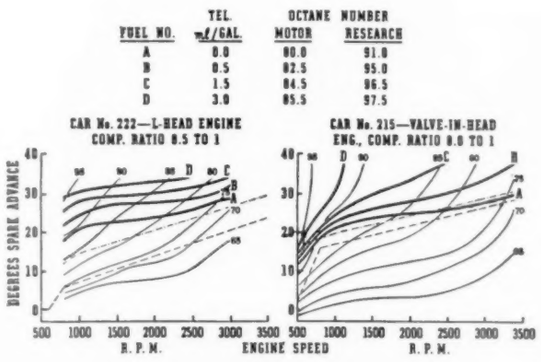

FUEL NO. | TEL. ml/GAL. | OCTANE NUMBER MOTOR | RESEARCH
A 0.0 80.0 91.0
B 0.5 82.5 95.0
C 1.5 84.5 96.5
D 3.0 85.5 97.5
CAR No. 222—L-HEAD ENGINE COMP. RATIO 8.5 TO 1
CAR No. 215—VALVE-IN-HEAD ENG., COMP. RATIO 8.0 TO 1
DEGREES SPARK ADVANCE
R. P. M.
ENGINE SPEED
R. P. M.

Fig. 17. Borderline knock curves—fuel E-16: 90% catalytically cracked gasoline, approximately 300° F end point; 15% heavy alkylate, approximate boiling range, 300° to 400° F

Part 4. In an effort to compare fuels on a basis of cost, to obtain a desired road effect, the results of all tests were considered from the following standpoints:

"1. The evaluation of fuels based on the amount of tetraethyl lead that must be added to each clear fuel to satisfy the maximum-power-spark-advance require-

ments of the test car at the speed of maximum knock based on motor-method values.

"2. The evaluation of fuels based on the amount of tetraethyl lead that must be added to each clear fuel to satisfy the maximum-power-spark-advance requirements of the test car at the speed of maximum knock based on research-method values.

"3. The evaluation of fuels based on the amount of tetraethyl lead that must be added, or deducted, from each fuel to satisfy the maximum-power-spark-advance requirements of the test car at the speed of maximum knock after all of the fuels have been leaded arbitrarily to the same motor-method octane number.

"4. The evaluation of fuels based on the amount of tetraethyl lead that must be added, or deducted, from each fuel to satisfy the maximum-power-spark-advance requirements of the test car at the speed of maximum knock after all of the fuels have been leaded arbitrarily to the same research-method octane number."

The methods 3 and 4 above were devised to minimize penalizing fuels with the lowest clear motor or research octanes and are preferable to 1 and 2 as the error in valuation has been reduced to differences in lead susceptibilities.

The problem of fuel evaluation is difficult to base upon correlation of laboratory research or motor method octane numbers and road anti-knock performance but, for purposes of illustration, the results obtained for the E series of fuels are shown graphically for one particular car in Fig. 21. The report stated:

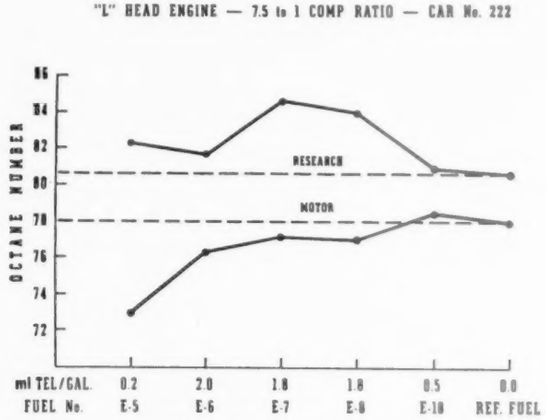


Fig. 21. Correlation between actual road requirement for maximum-power spark timing and laboratory motor and research-method values for test fuels

"The points of the jagged curves represent the laboratory octane numbers for each test fuel, and the dotted line represents the reference-fuel octane requirement of the test car, by either motor- or research-method calibration, as indicated."

"It will be noted that neither the 'motor' nor the 'research' octane values alone, or in combination, gave a reliable indication of possible road behavior. It is interesting, however, that as the compression ratio is increased, the correlation of the road results with the laboratory 'research' octane values becomes increasingly better, whereas the correlation with the motor-method values becomes increasingly worse."

"Throughout this work, the consideration of the hydrocarbon analysis of a fuel in conjunction with its 'motor' and 'research' octane values has seemed to offer the best means of correlating road performance with laboratory data."

Discussion

Lengthy discussion followed the paper on improved motor fuels through selective blending. Opinions and questions indicated, first that methods for rating anti-knock value of gasoline were still in a confused state and, second, that, while the chemical compounds in motor fuels are known to have an important bearing on knock rating, definite conclusions upon the effect of any particular chemical cannot be made. Undoubtedly, much will be learned in the future on this subject.

Many well known automotive engineers entered the discussion of knock testing but seemed in agreement that gasolines would have to be rated by the ASTM method until a standardized road octane procedure is established.

Some definite chemical effects were admitted, such as the fact that benzol will prevent low speed knock, that paraffins will prevent knock at high speeds and that tetraethyl lead addition improves the anti-knock value at any speed. In answer to a question as to the best organic compounds, Mr. Wagner stated that isoparaffins were first, with alkylates and aromatics following. The poorest are olefins. In answer to another question, he said that branched-chain paraffins are better than straight-chain olefins.

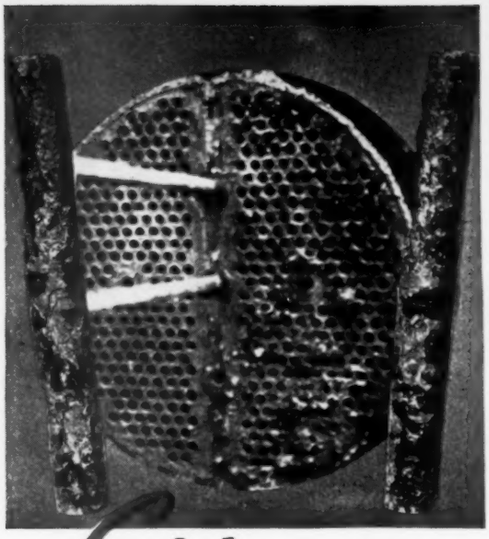
TABLE 1. Description of Test Fuels

Fuel No.	"N" Series of Fuels Description
N-12	47% California straight-run gasoline, 310° F. end point 41% heavy alkylate 7% normal butane 5% reference fuel F-3*
N-13	50% vapor-phase cracked gasoline, initial boiling point to 240° F. 20% heavy alkylate 15% heavy naphthenic straight-run gasoline 15% reference fuel F-3*
N-14	40% vapor-phase cracked gasoline, 240° F. to end point 19% reference fuel F-3* 19% isopropyl ether 12% California straight-run gasoline, 200° F. to end point 10% normal butane
N-15	50% catalytically cracked gasoline 50% polymer gasoline
N-16	45% heavy naphthenic straight-run gasoline 38% vapor-phase cracked gasoline, initial boiling point to 240° F. 10% reference fuel F-3* 7% mixed amylenes
N-17	50% vapor-phase cracked gasoline, initial boiling point to 240° F. 50% heavy alkylate
N-18	100% polymer gasoline
N-19	48% polymer gasoline 48% fuel N-12 4% normal butane
N-20	Blend of Mid Continent straight-run and cracked gasolines
N-22	100% catalytically cracked gasoline
N-23	50% polymer gasoline 50% fuel N-20
N-24	25% vapor-phase cracked gasoline, initial boiling point to 240° F. 75% catalytically reformed gasoline
N-25	25% vapor-phase cracked gasoline, initial boiling point to 240° F. 75% fuel N-20
N-26	55% reference fuel C-12 25% reference fuel A-6 20% absolute alcohol
N-27	100% catalytically cracked gasoline
N-28	100% catalytically reformed gasoline
N-29	Catalytically cracked gasoline in which last 10% of boiling range has been replaced with heavy alkylate
Fuel No.	**"E" Series of Fuels Description**
E-1	50% vapor-phase cracked gasoline, initial boiling point to 275° F. 50% heavy alkylate
E-2	50% vapor-phase cracked gasoline, initial boiling point to 275° F. 50% heavy catalytically reformed gasoline
E-3	50% vapor-phase cracked gasoline, initial boiling point to 275° F. 50% heavy naphthenic straight-run gasoline
E-4	100% polymer gasoline
E-5	25% CHP† cracked gasoline from Illinois crude oil, initial boiling point to 275° F. 25% catalyticelly dehydrogenated light straight-run gasoline from Illinois crude oil 50% catalytically reformed heavy gasoline
E-6	70% CHP† cracked gasoline from Illinois crude oil 30% straight-run gasoline, 325° F. end point
E-7	85% fuel E-6 15% fuel E-4
E-8	85% fuel E-6 7.5% fuel E-4, initial boiling point to 300° F., cut 7.5% catalytically reformed heavy gasoline
E-15	100% catalytically cracked gasoline
E-16	Catalytically cracked gasoline in which last 10% of boiling range has been replaced with heavy alkylate
E-17	100% vapor-phase cracked gasoline
E-18	100% Texas straight-run gasoline

*Reference fuel F-3 is technical iso-octane.
†Combination high-pressure.

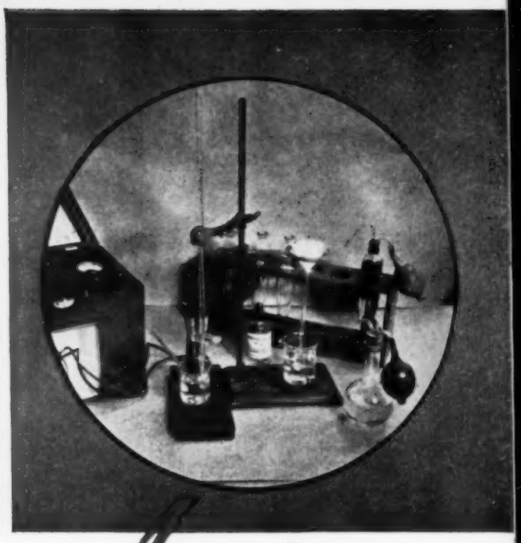
Cause

Unusual photomicrograph showing presence of salt crystals in crude oil and brine emulsion.



Effect

Lost "on stream time". Plugged, corroded and scaled refinery units. Raised maintenance costs. Frequent shutdowns.



Analysis

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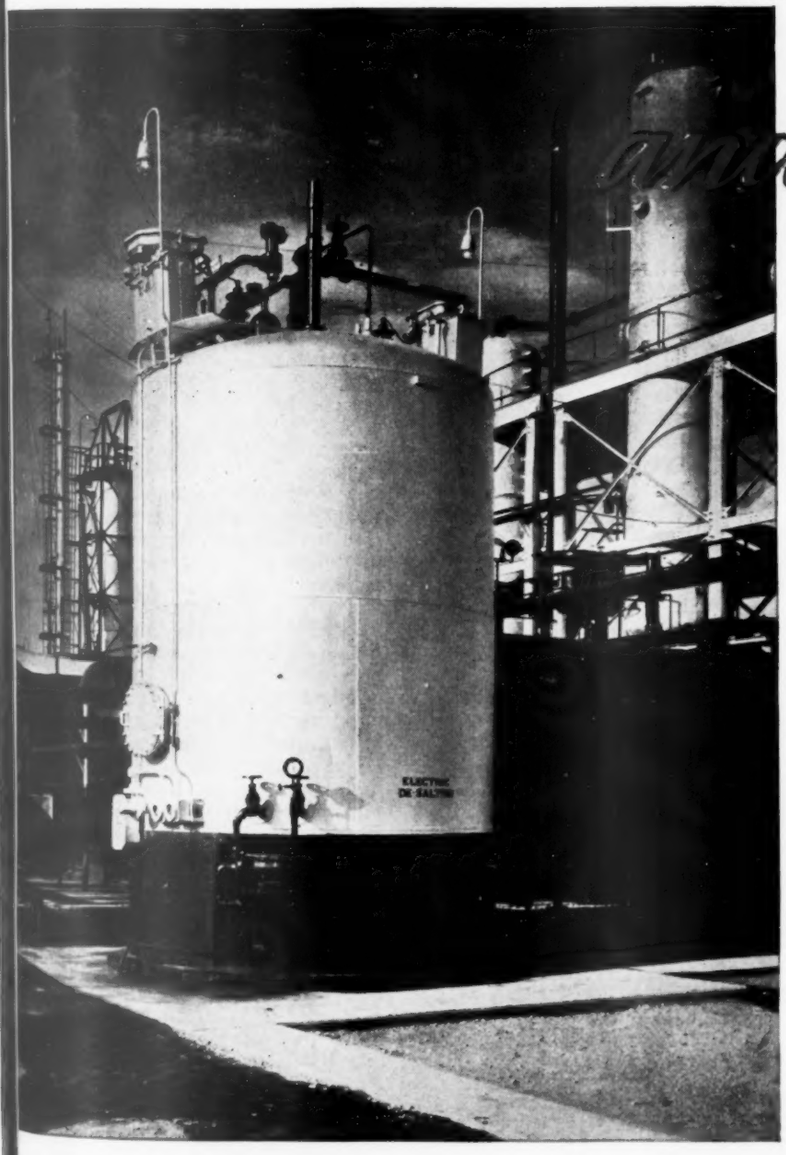

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DESALTING **DEHYDRATING**

New Lubricating Oil-Decolorizing And Clay-Reactivating Process

By W. B. Chenault* and A. E. Miller**

(Presented at the refining session, American Petroleum Institute meeting, San Francisco, Nov. 6, 1941)

While the principles of the contact method and clay revivification for decolorization of lubricating oils are not new, new developments are presented as applied by Sinclair Refining Co. at its Wellsville, N. Y., refinery.

This process consists of continuously decolorizing lubricating oils with clay, combined with a continuous reactivation of the spent clay by extraction with suitable solvents. The clay used is Magnesol, and the color solvent is a blend of 45% acetone and 55% naphtha. The heating temperature (furnace outlet) is 400 to 415°F. The charging stock has been Pennsylvania neutrals and raffinate, upon which an average clay life of 1030 bbls. per ton has resulted. No overall cost figures were reported.

*Sinclair Refining Co., Wellsville, N. Y.
**Sinclair Refining Co., New York.

WHEN the relatively high-priced acid-improved clays and synthetic clays were introduced on the market, there was an added incentive to find means for reactivating such clays, when spent, whereby they might be restored to a high percentage of their original efficiency. Inasmuch as most of these latter clays were used in powder form and had a delicate structure which might be injured by burning or the usual heat treatment, great efforts were made to reactivate them by means of solvents. The widespread interest in this field is testified to by various investigators in the period from 1900 to date, wherein many processes were suggested and numerous solvents recommended. We believe that very few of these methods ever were developed beyond the laboratory stage.

Our purpose in presenting this paper is to describe a process which is operating commercially at our Wellsville, N. Y., refinery, where the details of the process were developed. This process consists of continuously decolorizing lubricating oils with clay, combined with a continuous reactivation of the spent clay by extraction with suitable solvents.

All lubricating-oil stocks at Wellsville are clay-treated in the same manner, and in all cases the spent clay is reactivated. The oil is contacted with the clay, in the presence of a substantial quantity of naphtha, at temperatures just high enough to utilize the clay efficiently and to permit removal of the naphtha, but not high enough to modify the nature of the coloring matter absorbed in the clay so that its reactivation with simple solvents becomes difficult or impossible. We use Magnesol as the decolorizing clay because of its high decolorizing efficiency with our oils at moderately elevated temperatures, and because it can be reactivated repeatedly to high efficiency with simple solvents.

The naphtha used is the regular "300/400" plant grade, and the color solvent is a blend consisting of about 45% by volume of acetone and 55% naphtha. Although the oils are contacted in naphtha dilution, the process yields oils meeting flash, color, and viscosity specifications without further processing.

Except when first introduced into the system, clay never is handled as

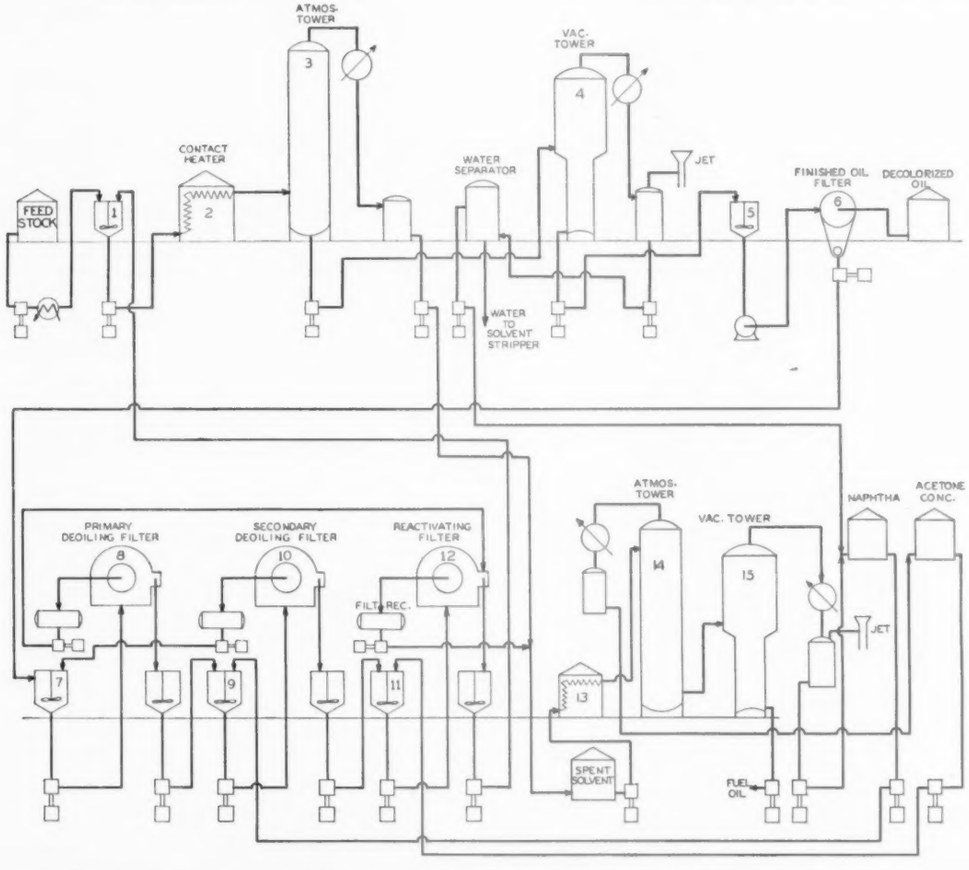

Fig. 1. Flow diagram of the lubricating oil—decolorizing and clay-reactivating process

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Catalytic Cracking Continuous Process
Hydroforming
Catalytic Polymerization
Alkylation
Thermal Cracking
Thermal Polymerization
Thermal Reversion
JUIK Processes for Lubricating Oil Refining

a dry powder. Both new and reactivated clays are handled, in the form of a slurry or cake with oil or naphtha, in the various steps of this process. When it becomes desirable to renew the clay charge, the old clay is discarded from the system with enough moisture so that it will not dust.

The complete decolorizing and the clay-reactivating process constitutes a closed system. Therefore, no air, moisture, nor other disturbing influences interfere with obtaining the best results—a condition which favors low naphtha and low color-solvent losses. The process is free from incidental oxidation and danger of explosion or fire, because a flue-gas atmosphere is provided for the system as described hereinafter.

Fig. 1 is a simplified flow diagram of the process.

The raw-oil stock, heated to a temperature of from 190 to 200° F., is introduced into mixing tank 1. Here it is blended with reactivated clay in the form of a naphtha slurry, containing some recycle oil which returns in the form of high-oil-content filtrate from the primary deoiling filter. Mixing tank 1, which is also the heater feed tank, is a closed-type steel tank provided with a mechanical stirrer, closed steam coils for temperature control, and a flue-gas atmosphere.

The mixture of oil, naphtha, and reactivated clay in feed tank 1 is pumped to pipe-still heater 2 operating at an outlet temperature of 400 to 415°F. Fig. 2 (omitted) shows the heater feed pumps, and Fig. 3 the pipe-still heaters, usually referred to as contact heaters. The charge then is flashed in a distillation system (see Fig. 4), consisting of an atmospheric tower 3 and a vacuum tower 4, in order to remove the naphtha diluent. In the atmospheric tower, an average temperature of 400°F. is held at the top and of 402°F. at the bottom; about half of the naphtha and substantially all of the small amount of acetone contained in the charge are removed as an overhead product.

This overhead is rerun to recover its acetone content. The bottoms from the atmospheric tower are pumped to the vacuum tower 4, which operates at from 20 in. to 22 in. of mercury, gage. In addition, steam is introduced into the bottom of the vacuum tower to assist in stripping the last traces of naphtha from the oil. The temperature in this tower will average 368°F. at the top and 370°F. at the bottom, and the tower yields an overhead product consisting of naphtha and water, which overhead passes through a condenser to a receiver and finally to a separator. As the water contains a small percentage of acetone, it is sent to the solvent-recovery unit, while the naphtha goes to regular tankage.

No naphtha is required for refluxing in either tower of the flash system; but there is introduced continuously, into the top of each tower, a small quantity of the oil being decolorized, in order to avoid possible accumulation of clay on the trays. Fig. 5 (omitted) is a view showing the pumps that handle the bottoms from the atmospheric and vacuum towers of the naphtha flash system.

The bottom product from the vacuum tower, consisting of a suspension of clay in naphtha-free decolorized oil, is pumped to the filter feed tank 5. This tank is of the closed type, provided with a mechanical stirrer and a flue-gas atmosphere. The clay-oil mixture is pumped to four finished-oil filters 6. These filters discharge the decolorized oil (which flows through blotting-paper filter presses to finished-oil storage) and a clay cake, wet with oil, which passes to the subsequent reactivating operation.

The finished-oil filters are operated in a manner normal to this type of equipment; but at the end of the oil run, after a cake of ½ in. to ¾ in. in thickness has been built on the leaves, it is blown for 5 min. to 7 min. to displace most of the oil. The average cycle on these filters is about 30 min. including the foregoing flue-gas blow and 3 min. for dumping. This produces a clay cake consisting of about 55% oil and 45% clay by weight, which cake readily falls free from the filter leaves into a hopper. Fig. 6 (omitted) shows the pumps, conveyors, and hoppers below the finished-oil filters. Then the clay cake is slurried with sufficient naphtha so that it can be pumped to mixing tank 7, which constitutes the feed to the first deoiling filter. This filter feed tank is also of the closed type, provided with a mechanical stirrer and maintained under a flue-gas atmosphere. It contains a mixture of spent clay, oil from the clay cake, and naphtha.

In our present operation, we use two deoiling filters and one reactivating filter (8, 10, and 12, respectively, of Fig. 1). These filters are all of the same size and design and are, in fact, interchangeable. Fig. 7 is a front view of one of these continuous vacuum filters. They are continuous rotary-drum type vacuum filters designed especially for this process. They are similar in many respects to those used in solvent-dewaxing plants, the principal differences being in the design of the sprays for washing the clay cake, in the method of collecting filtrates, and in the provision of mechanical agitators in the filter tanks.

When handling clay used in treating highly viscous oils, such as raffinates from cylinder stocks or straight cylinder stocks, the mixture in 7 is heated to a temperature of from 180° to 185°F.; but, when working with clay from neutral oils, the temperature is held at 170° to 175°F. This warm slurry from filter feed tank 7, which may carry from 15 to 18% by weight of clay, is pumped to the tank of the primary deoiling filter 8. The agitator in the filter tank keeps the clay in suspension. A layer of clay cake builds up on the rotating filter drum to a thickness averaging from ⅛ in. to ¼ in.; and, as the drum rotates and the clay cake emerges from the liquid, it is washed with naphtha supplied from spray nozzles.

A vacuum of from 10 in. to 20 in. of mercury, gage, is maintained in the filter drum sections, and an atmosphere of flue gas under a pressure of 5 in. of water is maintained in the filter hood. The partly deoiled clay is removed from the filter drum by "back blowing" with

Fig. 3. Contact heaters

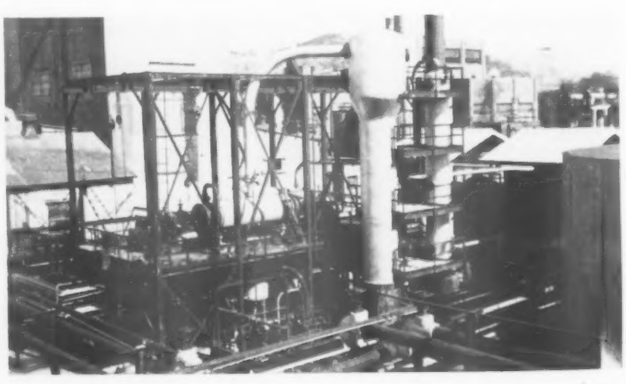

Fig. 4. Naphtha flash system after the contact heaters

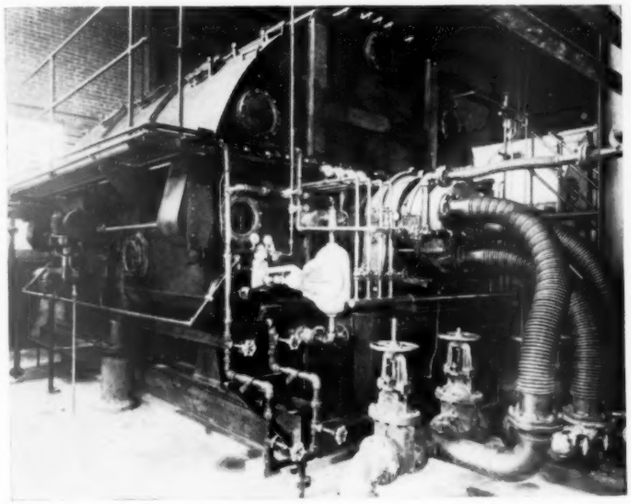

Fig. 7. Continuous rotary vacuum filter

flue gas, under a pressure of approximately 4 lb., just ahead of the scraper blade. The clay cake, which consists of about equal parts by weight of clay and naphtha, drops into a scroll—which delivers it to a naphtha slurry tank.

The oil washed from the clay cake by the naphtha is collected in filtrate receivers. The filtrate from filter 8 carries about 25% by volume of oil, and this is returned to heater feed tank 1; but, on the way, it is used to assist in removing the clay cake from the scroll of the reactivating filter 12.

The oil content of the clay cake from filter 8 averages from 1.5% when the plant is running on raffinate to about 3.5% when running neutrals. It is slurried with naphtha and introduced into mixing tank 9, which feeds the second deoiling filter. The feed is adjusted with naphtha so that the clay content will range from 20 to 26%, averaging 25% to make a pumpable mixture. This usually is delivered to the second deoiling filter 10 at a temperature of from 100° to 110°F. The wash naphtha is applied to the deoiling filters at an average temperature of about 150°F.

The products from the second deoiling filter are: a clay cake consisting of about equal parts by weight of naphtha and clay, in which the oil content averages filtrate consisting of naphtha carrying about 1% of oil. The filtrate from the second deoiling filter, on account of its low oil content, is used partly for washing the clay cake in the primary deoiling filter and partly on the scroll of the secondary deoiling filter to slurry the deoiled clay cake.

The deoiled clay cake, slurried with naphtha, is introduced into mixing vessel 11. This, as well as filter feed tanks 7 and 9, is a closed steel tank provided with a mechanical stirrer and a flue-gas atmosphere. Fig. 8 shows the type of mixing tanks used for feeding the deoiling and reactivating filters. This is known as the extractor, and is also the feed tank for the reactivating filter 12. The color solvent, at present a blend of acetone and naphtha, respectively, is added to the naphtha-clay slurry at this point. The average acetone content of the charge in 11 is 19 to 20% by volume of the liquid portion; and this charge, which carries from 11 to 14% by weight of clay, is delivered to the tank of the reactivating filter 12 at a temperature ranging from 90° to 100°F. Fresh naphtha at 90°F. is used in washing the clay cake on the reactivating filter drum.

The reactivating filter is, in all respects, a duplicate of and operated in a manner similar to the deoiling filters. The filter hood is supplied with low-pressure flue gas and a moderate vacuum of from 10 in. to 15 in. carried in the filter drum sections. The clay cake from the reactivating filter will contain about 0.35% by weight of oil and a small amount of acetone. Filtrate from the primary deoiling filter is used on the scroll of the reactivating filter to assist in removing the clay cake, and to make a slurry which then is returned to heater feed tank 1. The filtrate from the reactivating filter, consisting mostly of naphtha, but carrying the coloring matter removed from the clay, and containing on an average of 12 to 15% of acetone, goes to the solvent-recovery unit. Fig. 9 (omitted) is a view through the pump room below the filter floor. This shows the pumps and receivers handling filtrate and slurry from the rotary filters.

There are two separate and distinct flue-gas systems used at the clay-contacting and -recovery unit. The first consists of straight flue gas substantially free from oxidizing gases and free from all naphtha or acetone. This is used at a pressure of 50 lb. for blowing the finished-oil filters, and at gas-holder pressure to supply a non-oxidizing atmosphere wherever the naphtha-free decolorized oil is maintained at elevated temperatures in any part of the system such as, for instance, in the filter feed tank 5.

In the second system, flue gas at a pressure of 5 lb. supplies a non-oxidizing atmosphere in the hoods of the rotary filters, mixers, tankage, and in all steps of the process where naphtha or acetone is present. It is also used for blowing the clay cakes from the rotary filter drums. This is a recirculating system, in which the flue gas recirculates between a gas holder and the various pieces of equipment where it is used. The flue gas, from blowing back the clay cake from the reactivating filter, is pumped from the filtrate receivers, cooled and then passed through a packed tower in which it is scrubbed with fresh naphtha. The naphtha, which absorbs most of the acetone, is passed to the solvent recovery unit. The flue gas, containing small percentages of naphtha and acetone, goes to a gas holder. Fig. 10 is a view showing the coolers, scrubbers, and gas holder for the flue gas from the rotary vacuum filters.

The solvent-recovery unit, shown in Fig. 11, consisting of a pipe-still heater 13, an atmospheric tower 14, and a vacuum tower 15, originally was designed for the rerun

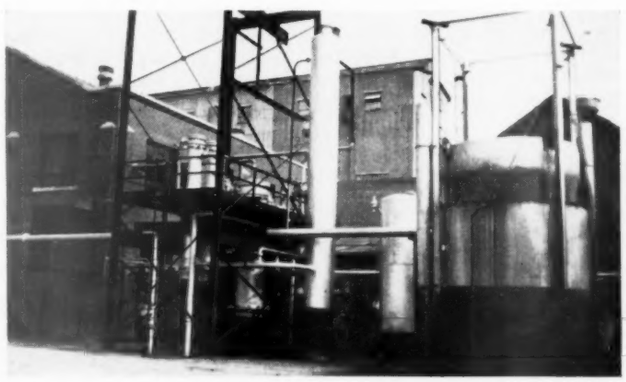

Fig. 10. Flue-gas scrubber, holder, and coolers

Fig. 11. Spent-solvent rerun unit

of cracked distillate. It was modified so that it would separate a concentrate of acetone and naphtha from a charge consisting of about 89.5% naphtha, 9% acetone, and the balance 1.5% of heavy residual oil containing the coloring matter removed from the spent clay during its reactivation. It is possible with this unit to produce a concentrate of from 42 to 45% of acetone in naphtha. This concentrate, produced as an overhead product from the atmospheric tower, goes to tankage as the color solvent for the solvent extraction of the deoiled used clay. The balance of the naphtha, which is recovered as an overhead product from the vacuum tower, goes to naphtha storage. The bottoms from the vacuum tower, amounting to 4.5% of the charge to the unit, contain about 64% of heavy naphtha. This is recovered by rerunning the vacuum-tower bottoms in one of the conventional refinery stills. The ultimate bottoms from this unit go to heavy fuel. The average charge to the solvent-recovery unit is 2,433 bbl. per day.

This charge yields the following products: acetone-naphtha concentrate overhead from the atmospheric tower, 20.5%; naphtha overhead from the vacuum tower, 75%; and vacuum-tower bottoms rerun charging stock, 4.5%. The ultimate heavy fuel from the rerunning of the vacuum-tower bottoms amounts to 30.24 bbl. per day, or 1.36% of the charge to the recovery unit. It contains the tarry adsorbed coloring matter removed from the oil during the decolorizing operation by the clay, and which was removed from the used clay in the clay-recovery operation. This final heavy fuel has a flash point of 450°F., and a Saybolt Universal viscosity of 180 sec. at 210°F.

Table 1 shows the yield of products from the solvent-recovery distillation unit and from the rerunning of the vacuum-tower bottoms therefrom:

TABLE 1

Yield Figures, Charge to Solvent-Recovery Unit

	Bbls. Per Day	Gravity (Deg. API)	Acetone %	Charge %
Atmospheric overhead (acetone concentrate)	499	55.0	45.000	20.5
Vacuum overhead (naphtha)	1,825	53.0	0.008	75.0
Vacuum bottoms	109	27.4	None	4.5
Average daily charge	2,433	53.5	9.000	100.00

Yield Figures, Rerun of Vacuum-Tower Bottoms

	Barrels Per Day	Gravity (Deg. API)	Charge to Rerun Still %	Charge to Solvent-Recovery Unit %
Overhead (heavy naphtha)	70	50.8	64.00	2.88
Light gas oil	3	32.0*	2.88	0.13
Intermediate gas oil	3	29.8*	2.88	0.13
Heavy fuel	33	18.4	30.24	1.36
Vacuum-tower bottoms	109	27.4	100.00	4.50

*On a naphtha-free basis.

TABLE 2

100-Ml ASTM Distillations: Products from the Solvent-Recovery Unit

	Solvent-Recovery Unit: Atmospheric Overhead Acetone Concentrate	Solvent-Recovery Unit: Vacuum Overhead (Naphtha)	Solvent-Recovery Unit: Vacuum Bottoms	Rerun Unit Overhead Heavy Naphtha
Gravity (deg. API)	55.0	53.0	27.4	50.8
Initial boiling point (deg. F.)	120	270	370	276
10-per-cent point	127	288	474	300
20-per-cent point	130	290	566	...
30-per-cent point	132	295	626	...
40-per-cent point	134	298	678	...
50-per-cent point	140	302	720	...
60-per-cent point	158	308	745	...
70-per-cent point	242	312	760+	...
80-per-cent point	268	319	...	...
90-per-cent point	289	330	...	380
End point	328	363	...	540
Acetone %	45.0	0.008	None	None
Charge to solvent-recovery unit (per cent)	20.5	75.0	4.5	2.88

TABLE 3

Typical Physical Tests

	150 No. 3 Neutral		Bright Stock		Heavy Bright Stock	
	Raw	Treated	Raw	Treated	Raw	Treated
Gravity, deg API	30.0	30.1	25.7	26.5	25.2	26.0
Flash point (Cleveland open cup), deg. F.	405	405	550	550	610	610
Fire point (Pensky-Martens), deg. F.	405	405	520	520	555	555
Fire point (Cleveland open cup), deg. F.	465	460	625	625	690	690
Viscosity (Saybolt Universal) at 100° F., sec.	149	145	. .	...	...	...
Viscosity (Saybolt Universal) at 210° F., sec.	42.5	42.5	164	160	245	230
Pour point, deg. F.	15	15	10	10	15	15
Color, optical-density (Duboscq)	...	...	1,575	515	1,750	575
Color, NPA	4+	2½+	. .	8—	...	8
Carbon residue, %	...	0.015	1.30	1.20	1.52	1.33
Reactivated clay, % by weight	4.3		9.5		9.6	

In Table 2 are shown 100-ml ASTM distillations of the products from the solvent-recovery unit. Note that the naphtha constituting the overhead from the vacuum tower has substantially the same boiling characteristics as the normal plant "300/400" naphtha used throughout the process, its initial boiling point being 270°F., and its end boiling point being 363°F. It contains only a trace of acetone.

(In the following portion of this paper, certain portions have been omitted as designated.)

Applicability of the Process

At Wellsville at least 7 different grades of Pennsylvania oils, varying from 150 neutral with a Saybolt Universal viscosity of about 145 sec. at 100°F., to heavy raffinates having a viscosity of about 240 sec. 210°F., regularly are treated by this process. Table 3 gives the typical physical tests on three of such stocks . . . .

Under each stock is shown also the average percentage of reactivated clay by weight, dry basis, used in decolorizing the stock. The reactivated clay has an average efficiency of from 80 to 85% of that of the new clay decolorizing efficiency.

The quantity of clay in the system is practically constant, so that the throughputs of various grades of oils depend upon the percentage of clay required to decolorize the stock to specification; and this, in turn, depends upon the efficiency of the clay. As much as 4,400 bbls. per day of neutral and 2,000 bbls. per day of regular raffinate have been put through this plant. . . . .

Clays Suitable for This Type of Operation

Any clay to be suitable for the type of operation carried out at Wellsville should have certain characteristics. It should have high oil-decolorizing efficiency at relatively low or only moderately elevated temperatures. Preferably, the coloring matter absorbed out of the oil by the clay should remain present in the clay in such a condition that it can be displaced and dissolved in simple solvents. . . .

We, at present, use the clay known as Magnesol, which is a synthetic product and chemically might be designated as a very pure form of hydrous magnesium silicate.

This clay is supplied in 50-lb. paper bags, and has a screen test ranging as follows:

Per cent on 100-mesh	46.0-36.0
Per cent on 200-mesh	21.6-13.4
Per cent on 300-mesh	21.4-12.0
Per cent through 300-mesh	11.0-38.6

The free moisture content varies from 11 to 19%, averaging about 15%; and the combined moisture is about 7%. It has a very slight alkaline reaction, the pH value aver-

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Further information furnished upon request.

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aging about 7.3. It weighs about 23 lb. per cu. ft.

The number of times any one charge of clay can be used in the Wellsville commercial unit depends upon its decolorizing efficiency. As the efficiency drops, it becomes an economic question of either replacing the clay charge with a new one or operating the plant under reduced throughputs. We have found it desirable to use clay through about 15 cycles as, with this much use, the efficiency averages 80 to 85% of that of the new clay. . . . The average throughput of charging stock of all grades of oil is 1,030 bbl. per ton of new decolorizing clay. . . .

Clay requirements are calculated on a dry basis, i.e., a correction is made for the percentage by weight of hydrocarbons and free moisture contained in the clay. Our new clay is considered to have a decolorizing efficiency of 100%; and, knowing the quantity of new clay required to treat any given oil stock to the desired color, the efficiency of reactivated clay can be determined by establishing the amount required to obtain the same color on the same oil. The optical-density colors taken on the Duboscq colorimeter are used in determining clay efficiencies due to the accuracy with which colors can be taken by this method. . . .

Oil Diluents

After experimenting with various types of oil diluents, we concluded that Pennsylvania crude naphtha, having a boiling range of about 260° to 380°F., and composed essentially of saturated paraffinic and naphthenic hydrocarbons, was best suited for the purposes of this process. . . .

We use this grade of naphtha in making up the various clay slurries, for washing the clay cakes on the three rotary vacuum filters, and whenever dilution with naphtha is necessary. For naphtha to be suitable for use in this process, it should have substantially no solvent action toward the coloring matter in the spent clay, particularly during the deoiling step of the clay-reactivating process. . . .

Color Solvents

We tested and experimented with a great many different types of solvents during the development of this process, but it was concluded that certain ketones and the lower-boiling alcohols are the most suitable for extracting the coloring matter from the used clay in the Wellsville unit. Acetone is the solvent employed at present, but there is no reason why we could not use methyl, ethyl ketone, or one of the lower-boiling alcohols, or a mixture of ketone and alcohol. These solvents are used in admixture with naphtha so that a typical color solvent would be one consisting of approximately 45% of acetone and 55% of naphtha by volume. In the extraction vessel or reactivating filter feed tank, we use 0.3 gal. of 100-per-cent equivalent acetone, or about 0.67 gal. of the 45-per-cent acetone-naphtha concentrate per pound of used clay.

Acetone Losses

The loss of acetone at Wellsville has been somewhat higher than we expected, but this is not surprising when it is considered that much of the equipment used was not designed for the purpose, but was adapted to it. We see no reason why the loss of color solvent, for instance acetone, should be very much higher in this type of plant than it is in a solvent-dewaxing plant, if the plant is well designed, and if all of the equipment is of the right type for the various operations involved.

Maintenance Expense

The decolorizing clay we used is not erosive to the extent of most contact clays. It can be handled by ordinary centrifugal or reciprocating pumps, although the use of open-type impeller centrifugal pumps is thought most desirable in preventing breakdown of the clay particles. Inasmuch as the clay we use is not erosive, the maintenance cost for material and labor on lines, pumps, and all other equipment is very low, averaging $0.0125 per bbl. of oil charge.

To date there has been no downtime due to equipment failure, the only lost time on the unit being caused by cleaning the coolers and condensers on the naphtha flash towers. This lost time during the past 5 months has amounted to 126 hours, or 3.4%.

The cloth dressing on the rotary filters is 15-oz. chain-weave cotton. The life of this cloth is more than 10 months on the primary deoiling filter, as the present filter cloth has been in continuous service since November 1940, and is still in good condition. The cloth on the secondary deoiling filter has been in service since February 1941, and is still in use. On the reactivating filter, a life of the cloth dressing equivalent to that on the deoiling filter is expected, although this has not yet been established.

There has been no replacement of pipe lines, valves, pump parts, mixers, nor other equipment since the process first was put in operation. Therefore, it is impossible to state, and even predict, what the life of the various mechanical parts of the unit will be. It is our opinion, however, that the life of such mechanical parts will be unusually long for this type of application.

Instrumentation and Controls

All of the instruments used in connection with the process at Wellsville are standard instruments. These are provided for controlling the temperatures, pressures, liquid and slurry levels in containers, and the flow of materials for the various steps of this process. . . .

A laboratory test is made in connection with each oil charging stock to determine how much new clay is required to decolorize it to specification color. Actually, reactivated clay is used in the decolorizing step of the process. Its efficiency is assumed to be 85%. When any given oil stock is started through the process, sufficient reactivated clay to meet the new clay-decolorizing requirement is used. In order to meet this indicated amount of reactivated clay in the heater feed tank, a sample of the slurry is tested for its percentage content of solids by weight. The pump transferring this slurry then is set at such a speed that it will deliver the quantity of solids necessary for decolorizing the oil. Usually an excess of solids will be used until a sample of the finished oil can be obtained for color inspection. If the color of the oil from the finished-oil filter is too good, the rate of raw-oil charge is increased, holding the slurry rate constant. The raw oil is measured into the heater feed tank through an ordinary displacement meter, and its feed rate is varied rather than changing the slurry feed rate, because in this manner the rotary filters operate under more constant conditions.

The feed mixture to the rotary filters is controlled by the amount of naphtha or solvent metered into the filter feed tanks.

During the run of each grade of stock a composite sample is collected from all of the control points, and these samples are analyzed for components as a record covering the operation.

We have found our present oil-decolorizing and clay-reactivating process to be quite economical. When everything is taken into consideration, the cost (per barrel of oil decolorized) of applying the process commercially is less than 50% of that of the oil-decolorizing process we previously used at Wellsville, and which this process replaced. We believe that the decolorizing cost by this process will compare very favorably with other clay decolorizing processes with which we are familiar.

The process described in this paper is available to anyone interested in it. Licensing arrangements may be made through the Texaco Development Corp.

New CFR Road Test Technique Proves its Value in 1941 Program

THE new "borderline" technique for determining road octane values in terms of engine speed, which was developed in the 1940 Co-operative Fuel Research program, has been further tested in the 1941 C.F.R. program, it was brought out in the report of the CFR Committee, presented at the refining session Nov. 7, of the American Petroleum Institute meeting. The report was read by Dr. D. P. Barnard, Standard Oil Co. of Indiana, chairman of the A.P.I. Motor Fuels Research Committee, which directs the oil industry's part in the C.F.R. program.

The later results have borne out the earlier conclusions as to the practical value of the new procedure and they also emphasize that single octane numbers cannot be used to accurately indicate actual anti-knock performance of fuels under the varying conditions of usage. (REFINING TECHNOLOGY edition of NPN, June 11, pg. R-179 describes the new borderline road test procedure.)

The 1941 road detonation program was divided into the following sections:

1—Ignition timing relationships.

2—Control fuel tests.

3—Procedure evaluation.

4—Survey of characteristics of commercial gasolines.

5—Survey of octane number requirements of 1940 and 1941 cars, with particular attention to Chevrolet, Ford and Plymouth models. This last section was carried out in conjunction with the program of the survey division of the C.F.R. Committee.

Ignition-Timing Relationships

The so-called reference fuel frameworks, which are part of the new borderline technique and are a convenient means for expressing ignition-timing relationships at wide open throttle, were developed for 1940 and 1941 models of Chevrolet, Ford and Plymouth. These reference fuel frameworks show the importance of ignition timing in controlling knock. For example, retarding the ignition 5 deg. from the setting for maximum power at 1000 r.p.m. (approximately 20 miles an hour) resulted in a loss of about 1% in power and a reduction in octane number requirement of from 6 to 10 octane numbers in these cars. On this point the report stated:

"The position of the curve representing the manufacturer's specification for distributor advance indicates that each of the manufacturers has taken advantage of this principle (controlling knock by ignition timing) by retarding the ignition relative to the setting for maximum power at the lower engine speeds.

"The position of the several different distributor curves represents the individual manufacturer's compromise of a number of factors, including power loss from retarded

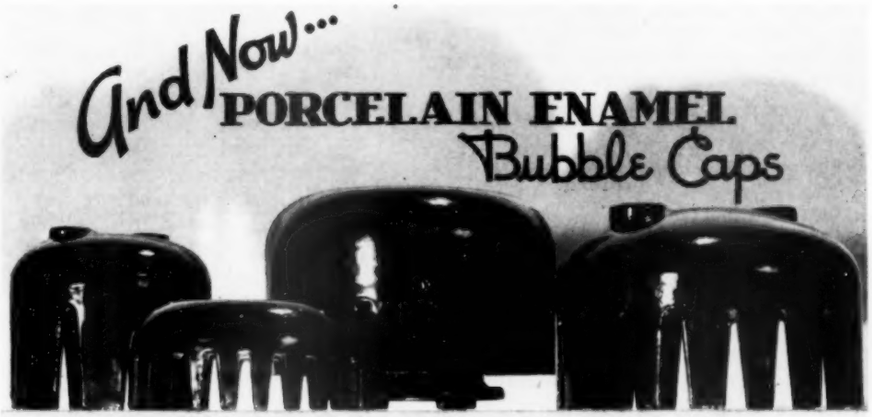

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Table 1—Average Inspection Data on Four Control Fuels Used in the 1941 Road Tests

	Fuel 41-A	Fuel 41-B	Fuel 41-C	Fuel 41-D
Octane No. (ASTM)	75.1	69.4	75.6	75.9
Octane No. (Research)	75.5	79.7	79.7	78.6
Initial Boiling Point, °F.	109.	93.	98.	117.
10% point, °F.	166.	126.	132.	159.
50% point, °F.	245.	247.	224.	199.
90% point, °F.	328.	370.	323.	248.
End point, °F.	374.	414.	379.	335.

Table 2—Average Road Ratings of 1941 Control Fuels Expressed as ASTM Octane Number of Equivalent Secondary Reference Fuel

Engine Speed RPM	Fuel 41-A	Fuel 41-B	Fuel 41-C	Fuel 41-D
750	70.7	75.0	73.0	75.1
1000	72.0	75.0	73.2	75.4
1500	74.1	73.0	74.3	75.8
2000	75.2	70.3	73.7	75.8
2500	76.3	67.5	72.6	75.8
3000	77.9	65.4	72.3	75.9

spark, octane number of available fuels, allowance for the effects of combustion-chamber deposit, allowance for deviations from proper ignition setting and other elements peculiar to the design of each engine.

The variation in the reference fuel frameworks from car to car of the same make is said to be due to a number of causes and to have special significance in indicating the necessity for the use of statistical methods in the evaluation of the octane number requirements of any particular make of car, as found in customer service.

Control Fuels

Four control fuels of widely different types were used by all the co-operating laboratories in the 1941 road tests. (See Tables 1 and 2.) A sufficient number of ratings were obtained to establish representative mean values of octane number for each fuel throughout the speed range, which were of value in investigating variations, and in comparing ratings of different makes of car. The 4 control fuels were:

Paraffinic straight-run, containing tetraethyl lead,

Mid-Continent cracked (no lead)

Mixture of Mid-Continent cracked, plus straight-run and containing lead

Secondary reference-fuel blend.

The C.F.R. report, in commenting on octane number vs. speed relationship stated: "One of the outstanding developments of the San Bernardino road detonation tests was the concept of a relationship between engine speed and road octane number that can be used to characterize the behavior in service of different types of gasoline. This relationship is illustrated by the average road octane numbers, tabulated in Table 2, of the four control fuels used in the 1941 road tests.

"It must be emphasized that the ratings in Table 2 are average values. The individual data show considerable variation in octane number at each engine speed. This appears due in part to differences between cars and in part to other factors which might be classified as experimental error. The differences between various makes of cars—i.e., Chevrolet, Ford, and Plymouth—were not very consistent, however, and present information is not sufficient to indicate any real and unmistakable differences between the different car makes. But, for whatever reason, variations in reported octane number ratings do exist; and it is necessary, therefore, to obtain a statistical representation of the octane number-speed relationship as it was actually reported for these tests."

The conclusion reached was that single octane number ratings cannot be relied upon, owing to appreciable variation between runs in a given car and between different cars.

Evaluation of the three road-test procedures developed in the San Bernardino tests, the borderline, modified-borderline and knock-intensity methods, indicated that the 3 methods give approximately identical ratings for a given fuel, and may be used interchangeably. The choice of the method depends upon its adaptation to the existing circumstances and somewhat upon the individual preference of the operator, it was stated.

Commercial Gasoline Survey

The practical value of the data which can be secured through the use of the new technique for expressing road octane values in terms of engine speed is demonstrated in the survey of characteristics of commercial gasolines, which was one section of the 1941 road detonation program.

Companies participating in the work were asked to determine the octane number-speed characteristics of at least 5 regular grade and 2 premium grade gasolines. These fuels were to be selected to represent the major quantity of gasoline marketed in the area where each company was located. By this means it was possible to obtain a reasonably representative sampling of gasolines marketed throughout the U. S. The C.F.R. Committee report on this part of the 1941 program was as follows:

"Data were reported on a total of 112 'regular' and 56 'premium' fuels, and the distribution of road octane No. ratings in all cars is shown in Fig. 11. The curves

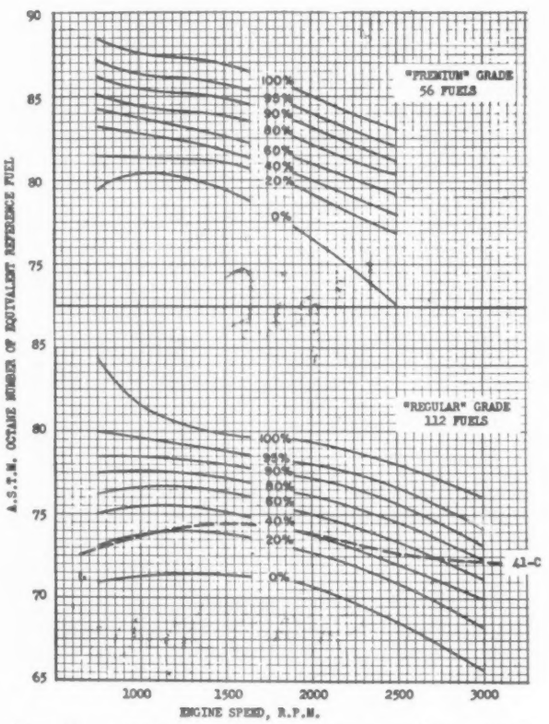

Fig. 11. Distribution of road octane number ratings of commercial fuels in all cars. The per cent figures indicate the proportion of all cars that would operate without knocking on a fuel of the octane number-speed characteristics shown in the curves

representing various fractions of the total were determined from a tabulation of octane ratings at six different speeds, and it should be pointed out that these curves bear no relation to the characteristics of the individual gasolines; i.e., the gasolines in the upper 10-per-cent bracket at 1,000 rpm are not necessarily the same as those in that bracket at 3,000 rpm.

"This type of information has several applications. For example, it can be used in the evaluation of the characteristics of any given fuel, such as 41-C, the curve for which is superimposed on the statistical framework representing the "regular"-grade gasolines. Thus 41-C was a little below

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the average at 750 rpm, and a little above the average at 3,000 rpm.

"By combining these statistics with corresponding octane No.-requirement data for a given make of car, the probabilities of detonation in various speed ranges may be estimated. This information may be used also in conjunction with reference-fuel frameworks as a guide in the design of distributor characteristics that will conform with fuels currently available. When they are available, of course, corresponding data for a particular car make would be preferable for distributor design, and the complete CFR report contains separate figures representing the behavior of 'regular' and 'premium' gasolines in 1940 and 1941 models of Chevrolet, Ford and Plymouth."

Organizations participating in the 1941 CFR road detonation tests were:

The Atlantic Refining Co., Chrysler Corp., Cities Service Oil Co., Ethyl Gasoline Corp., General Motors Corp., General Petroleum Corp., Gulf Research and Development Co., Holley Carburetor Co., National Bureau of Standards, Phillips Petroleum Co., Pure Oil Co., Shell Oil Co. Inc., Sinclair Refining Co., Socony-Vacuum Oil Co. Inc., Standard Oil Co. of California, Standard Oil Co. (Indiana), The Standard Oil Co. (Ohio), Standard Oil Development Co., Sun Oil Co., The Texas Co., Tide Water Associated Oil Co. (Bayonne), Tide Water Associated Oil Co. (California), Union Oil Co., and Universal Oil Products Co.

Caustic Methanol vs Bauxite Treating

"Naphtha Treating 'Pays Its Way'", by C. F. Mason, R. D. Bent and J. H. McCullough, of Atlantic Refining Co.

Although this paper, presented by Hugh Field, assistant manager of research and development for the above company, covered a process previously published (REFINING TECHNOLOGY Oct. 1, P. R-316) new data were submitted which attracted active discussion at the meeting here.

The speaker pointed out that the semi-commercial unit utilizing caustic methanol for mercaptan removal, with a capacity as high as 300 bbls. of gasoline per day, had resulted in a minimum lead saving of 0.25 ml. per gal. The operating conditions based upon 250 runs indicated simplicity and uniformity, it was brought out. The recirculation of solvent (37% caustic solution and methanol) was 2.8%, based upon the naphtha charged, while the treating temperature was 100° F. The installation cost for an average size plant was estimated at $8 to $12 per bbl. per day and the direct manufacturing cost at 1c per gal. charged.

During the discussion that followed the presentation of this paper, Dr. Hall, of Phillips Petroleum Co., research department, presented a prepared criticism to show that commercial desulfurization with bauxite was superior in some respects to laboratory de-mercaptanization with the caustic-methanol. Some of the data presented in this discussion were as follows:

Western Straight-Run Gasoline

	Charge	Caustic Methanol Treated	Bauxite Desulfurized
Octane No. 0cc TEL	59.2	59.2	61.2
Octane No. 1cc TEL	68.4	69.5	72.9
Octane No. 2cc TEL	72.6	74.4	78.6
Octane No. 3cc TEL	76.0	77.7	81.0
cc TEL to bring to 73 octane	2.09	1.68	1.00
TEL saved, %	....	20.0	52.00
Total sulfur, %	0.058	0.035	0.005

Another tabulation covering 10 different gasolines, when averaged, showed that the caustic methanol saved 21% of TEL, while bauxite saved 56%. No data were supplied, however, upon the comparative installation or operating costs of the bauxite process.